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About New Order

The borrowed, un-Indian, unlicensed democracy-in-action in India is a failure both as a way of life and a process of economic development. In the meanwhile it has done its worst in building up the foundation of capitalism concentrating, as a corollary, the political power in the hands of a group of intriguing professional leaders (or professionalism) under the watch and command of Indian capitalists backed by their international counterparts. This situation is very much of the making and liking of both camps of super powers for opposite reasons—one anticipating the plantation of western democracy and the other of people's democracy, i.e. dictatorship ; the former by striking the roots of democracy straightway in Indian soil and the other by uprooting it through "democratic revolution" in the process of co-existence, if need be, by armed revolution.

This two opposite forces led to the creation of the so-called third force, the total revolutionaries, to bring in 'total revolution' of Indian orientation which is a right thinking in wrong perspective and hence without any sense of reality-in-making. It clashed with the tilting of western democracy in India in favour of the people's democracy to which Indian communists (and not the communists of India as they no longer exist) joined financed by a section of capitalists. Its first challenge was against Emergency. Emergency collapsed collapsing at the same time its resisters also as nobody now speaks about "total revolution" and its power-machinery, Janata, is from the beginning a slaughter house.

Sum total, the people are in dilemma. Democracy (Western) and People's Democracy or Neo-dictatorship (Russian/Chinese) and the Janata style of "total revolution" all have failed. What is in preparation under surface and what is to be accepted or rejected if they are given next the democratic right to mould their own destiny ? History says that when all democratic processes fail or clash with weak socialist/communist forces, personal dictatorship emerges welcomed by peace loving people, stays till the dictator dies or falls by the force of the disciplined democratic force. So what is ultimately needed is social discipline, which includes discipline in all spheres of life, mental and manual, within the framework of optimum possible freeness of individuals to think differently but finally to act unitedly, the latter sense comes only from the depth of nationalism. Nationalism, with economic equality, of course is not the sole factor of discipline. For mental discipline is only possible when man does not end in materialism or matter but in spiritualism or spirit. A right balance is to be struck between matter that matters and spirit that uplifts from the bounds of matter. India provides soil for this thinking and experiment. Therein lies the New Order for India and for the world. It is certainly on the horizon. But before that, that is, with the end of Janata style of democracy and regional communist experiment in Euro-communism, will re-emerge another round of Emergency that would mark the end of both western democracy and people's democracy in Indian soil which will be ever remembered in history as the providers of womb of the New Order.

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Review

Janata Economic Policy, O. N. Vakil, The Macmillan Company of India Limited, Delhi, 1979, Price Rs. 25.00.

Dedication is one thing, disposition is another thing. The author with a high sprit and high hopes has dedicated the book "to the Janata Government and the Janata Party with the prayer that they have the determination to do sustained organised team work and above all, integration, vision and unity of purpose to establish the New Social Order envisaged in their policy." Had the author initially applied his analytical mind in politics he would not have termed the Janata conglomeration a 'party' and consequently cherished any aspirations and suggested any breakthrough for the limitations in the way of the Janata's move to New Social Order.

In any way, the author has his own concept of New Social Order which he has subjectively projected through the Janata. His order is not based on any theory, it is just a desire developed in the line of Gandhian thoughts. He writes, "The Janata Party has decided to follow the path of Gandhian Socialism so as to avoid the defects of capitalism as well as communism." The author, following the Janata, suffers from poor social knowledge of Gandhian thoughts. Gandhian thoughts are not a synthesis of capitalism and communism ; they are founded solidly upon communism in a different way, which can be practised only from the grass roots by a non-violent 'dictatorial' social power dedicated to Truth. Gandhism is not a white wash ; it is not an alternative to capitalism or communism or any ism whatever. It is absolute in itself. The Janata's fundamental mistake is that it wants to rectify than change a capitalist society by Gandhian tools and that too without imbibing and culturing the spirit of non-violence of the bravests. The fact is that Gandhi has been sporadically used to mislead the present un-Gandhian generation which is sick of both capitalism and socialism/communism, i.e., materialism and expanded labour-intensive industrial area to assure more disguised unemployment side by side with over-paid employment to ease the social balance. The author himself is in dilemma in giving constructive suggestions to the Janata leaders for, after all, he is a modernist in Gandhian primitiveness, a democrat in borrowed democracy of western countries. Gandhi wanted that khadi (hand-spun clothes) would clothe both highs and lows of India and should be produced on minimum need basis. This was sounded by the Union Industry Minister. The reaction of the author is "The logical conclusion of such a policy may be that all the textile units in the country may be asked to close down within a particular period of time, so that the handloom industry may be in a position to have the entire market for cloth and may have the opportunity to thrive, which may mean a large subsidy for their maintenance". As a 'democrat' also he cannot support this policy: "This will involve indirect coercion by the government on the people to use *khadi* and give up the other varieties of cloth to which they are accustomed, even as coercion is bound to be imposed on the people to give up the use of soap and matches to which they are accustomed to in preference to similar items made by smailer units. One may wonder whether this sort of coercion does not amount to a violation of the freedom of the consumer." The author's difficulty is that he 'understands' Gandhi without his simplicity and spirit in search of truth and his social philosophy of subordination of 'freedom of the consumer' in the New Social Oider.

The main theme of Gandhian economics is 'trusteeship' and the Janata Party is on the way of adoption of the concept of trusteeship. But in this most crucial point the author could not hide his dismay: "It is a sad commentary on the present situation that the appetite of benefits such as large emoluments in one form or the other has grown among organised classes..." This is the reality which has fast developed under the Janata's concepts of democracy, trusteeship and modernity.

Bondage of Poverty : A Case Study of Scheduled Caste Households in Three Villages of Karnataka

G. P. Mishra[*]

Indian society, particularly the village society, is predominantly caste-bound in character. The characteristic feature of this society is its stratification in terms of castes. The caste system as an institution in India is a product of the occurrence and operation of a number of historical forces and events which finally led to the superimposition of a kind of social structure based on endogamy and heredity. The historical process of caste evolution shows how scheduled castes, called Mlecha, untouchables, etc., came into existence through the passage of time and how they continue to remain in the bondage of poverty and misery. Persistence of the scheduled castes in the bondage of poverty and misery as a historical reality is a result of 'slavery' and 'feudalism'. This historical reality posed a challenge to independent India which has chosen the path of democracy for communicating the message of social and economic justice to the people of India for realising it in all the instiutions of her national life. This challenge has become more severe in today's India when the constitutional provisions to protect them and other measures to improve their socio-economic lot could not be effective.

The recent atrocities commiteed on the Harijans remind us of the British India when they were bonded to their *masters* as slaves by having only duties to serve but devoid of any right to claim for their subsistence. A number of recent surveys and studies show how even today they lead a sub-human life. How to place them equally in social hierachy and how to make them reap the benefits of development for improving their economic conditions are the questions of pertinence in India today.

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[*] Fellow in Rural Economics Unit, Institute for Social and Economic Change, Bangalore.

The main objective of this paper is not to give a historical account of the emergence and socio-economic exploitation of scheduled castes but to present their socio-economic conditions based on a case study of three villages in the Bangalore district of Karnataka.

This paper is based on the information collected by the author with the help of two investigators while conducting field survey of '*The Impact of Dairy Development in Karnataka*'. The interview method was adopted for collecting information on a random basis in three villages. In all, 11 scheduled caste households were covered under this method.

1. Characteristics of Sample Village

The villages studied viz., Viswanathpura, Solur and Devaganahalli are situated at a distance of 8 to 10 kms from the Devanahalli town which is about 35 kms from Bangalore city. The characteristics of land topography, cropping pattern, occupations and caste composition of the village population are such that these villages form a cluster of a similar village community.

The structure of land topography is undulating and slopy having the red-cum-sand loamy characteristics of soil in all the villages. There are some patches of upland where the soil is saline and not fertile. Tank being the major souree of irrigation, they irrigate about 26 per cent, 24 per cent and 14 per cent of the total cultivable area belonging to Solur, Devaganahaili and Viswanathapura villages respectively. Next to tank, well is another source of irrigation but the proportion of irrigated land under well is insignificant. Having the same source of irrigation and the topography of land, the cropping pattern is also the same in these villages. The area under ragi constitutes more than half of their cropped areas and other crops like paddy, mulberry, maize, vegetables etc. are grown in the rest of their areas. Ragi is the main staple food of people in the villages.

Farming is the main household occupation. Dairying and sericulture have emerged as the other sources of household occupation which are subsidiary to farming.

The caste composition of the villages shows the dominance of vokkaliga caste which constitutes half of the village population and operates more than 65 per cent of the total areas. Next to this caste, scheduled caste is numerically strong and it constiutes 12 per cent in Solur, 55 per cent in Viswanathapura and 32 per cent in

Devaganahalli of the respective village population. But the scheduled caste households operate a very insignificant proportion of the total area in these villages. Except Viswanathapura wherein about 50 per cent of such households are found to operate mostly marginal and small holdings, in Solur and Devaganahalli most of them are landless. Kurubas are another major caste next to scheduled castes. Some other castes such as Brahmin, Achar, and Setty are also found in these villages but their number is very small.

The morphology of these villages clearly exposes the caste based locational pattern of household settlement. Specially, the Scheduled Caste households are located at a place distant from those of higher castes. The dwelling houses of the scheduled caste population in particular are one room thatched huts having been made of mud and straws. In Viswanathapura, however, some of them have got houses constructed by the government and some of them have obtained house sites from the government. Untouchability is still in practice. The members of scheduled caste are prohibited to enter village temples.

Viswanathapura is the most prosperous village, being the main centre of milk procurement for the K. D. D. C. A number of retail shops, a Branch office of Canara Bank and Karnataka Government sericulture office have come up. This village has also a post office. As a result, for other surrounding villages it has become an important local market centre. However, the rich and the middle income group people of the villages go to Devanahalli for marketing purposes.

The above characteristics bound these villages in one village community but with the dialectical existence of social and economic inequality.

11. Demographic Features

The number of scheduled caste households interviewed constitutes about 12 per cent of the total number of such households belonging to these villages. Their population size covered for investigation is 44 which is about 8 per cent of the total number of scheduled caste population of the villages. The average size of household is estimated to be 4 but in respect of the whole population in the villages it constitutes 6 persons per households.

The age-composition of the population shows that 45 per cent, 40 per cent and 7 per cent of the sample population belong to the age groups of 0-14, 15-59 and 60 years and above respectively. The sex composition of the population indicates that about 57 per cent of the population are males and the rest are females. While interviewing the households, it was noted that most of the scheduled caste households manage to get one meal now in a day. Malnutrition and ill-health were found to be a common feature among them. Therefore the mortality rate was high in the age group of 0-5 years. Moreover, agricultural labour was the main source of livelihood. Most of the persons in the age group of above 40 look more aged with wrinkles on face because of their physical exertion and economic worries. The age-composition of population shows that only one was found in the age-group of 60-65 years and the other one was in the age group of above 65 years. Prevalence of malnutrition and ill-health and the proportion of number of persons belonging to the last age groups indicate low expectation of life. These demographic features are interesting to note from the point of an understanding of the socio-economic conditions of scheduled castes in rural areas.

III. Farm Size

Most of the studies—whether based on primary or secondary sources on the caste-wise possession and operation of land in rural India show that scheduled caste households are by and large landless. Those which own and operate land mostly belong to the marginal and small categories of farm size. However, they have very little command over the supply of total land under cultivation in rural India. The 4th Round National Sample Survey of 1959 bears an evidence to this fact. The ISEC mimeograph on '*The Impact of Canal Irrigation in Bellary District of Karnataka*' shows that out of 101 rural households invsetigated for the purpose, only six scheduled caste households operated small holdings of up to five acres and two up to 7.5 acres of farm size. The current study on 'The Impact of Dairy Development in Karnataka' which is in progress indicates that of 304 households investigated, 30 scheduled caste households operated land holdings of 0-2.5 acres ; 5 households operated farm size of 2.5 to 5.0 acres ; and only 4 households were found to operate land holdings of 5.0 to 7.5 acres. The same study also indicates that of 10 landless households appeared in the sample, 7 households belonged to scheduled castes. This implies that in all such households constitute a little more than 13 per cent of the total number of rural households operating land. But most of them belong to the marginal category of farm size, i.e., more than 65 per cent of the total number of scheduled caste households operate up to 2.5 acres of land holding. The study also shows that these households operated 6 per cent of the total area belong to the sample villages.

Table 1 shows that about 55 per cent of the total number of scheduled caste households investigated are landless and the rest have land up to 5 acres. Taking total number of such households, in all three villages, according to census figures about 53 per cent of them have land to operate and the rest are landless. However, the information collected through inteview method shows that all land-operating scheduled caste households belong to the marginal and small categories of farm size This what our study on *'The Impact of Dairy Development in Karnataka*, shows, except some cases where households operate land up to 7.5 acres of holdings. The operational holding-wise distribution of land shows that one of the six land operating households has only up to 0.5 acre of land which is reported to have been left uncultivated during the last year because of its inability to bear the cost of cultivation. The other one having one acre of land raised ragi for home consumption. The household belonging to 1.01 to 2.5 holding size actually owns only half acre of its own but the rest is given by the Government for cultivation. Two of them belong to the holding size of 2.5 to 5 acres and one of the two in fact owns only 0.75 acre of land and the rest given by the government in the last year and that Government land was yet to be cultivated.

Table 1

	Sample	(Census) Actual
A, No. of Households	11	97
B. With Land	5	51
C. Without Land	6	46
D. Total Population	44	564
E. Household Size	4	6

All this shows that scheduled caste households are partly landless and partly marginal or small land holders. Hence most of the marginal and small land holders of this caste have to depend on wage labour for subsistence.

IV. Mode of Employment and Income

Given the agrarian structure in rural India, the mode of employment and income primarily depends on land-cum-production relations. The agrarian structure of land-cum-production relations shows that scheduled castes mostly operate negligible land. As a result they are related to land in production process as labourers. Having been alienated from the ownership of land and other material resources, the main source of income for their livelihood is labour. Given this structure, there is a mode of production which determines the mode of employment and income for them in rural areas. So far as the mode of production is concerned there are conflicting situations and consequently two modes of employment and income are found : wage labour (attached as well as casual labour) and bonded labour. Both situations are found in these villages.

With respect to attached labour, Mr Hanumanthappa (the head of the household) reports that he along with his son lives in an outhouse of the landlord in the village and both of them work for him for the whole year. They are given Rs 300 per year apart from ragi to eat and clothing to wear. He has been reported to be working for the landlord for the last three years. But the other households reported to have hired out labour for wages on casual basis. The family members hiring out labour were observed to work on off-farms varying from 60 days to 160 days per year. The wage rate is Rs. 3.50 for male worker to Rs. 3 for female worker and Rs. 2.50 for child worker. Of all the households, three reported that their sons and daughters belonging to the age group of 5 to 14 years worked for wages. Most of the households informed the cases of drop-out of their children from schools after reaching anywhere between V to VIII standard because of their economic compulsion to go for earning subsistence. Mr. Varappa of Devenganahalli village reports that his wife works as a casual labourer on the Central Government Farm in Solur village and gets Rs. 4.50 per day. Her job is temporary but she works there throughout the year. In the other village, the head of the family goes to cut stones for different persons and he gets Rs. 6 daily wages.

The mode of bonded labour employment also prevails in the villages but in the form of being bonded to landlord through loans for consumption and marriage purposes. Muniappa and Muniamma of Solur village, Varappa of Devanganahalli village and Pillappa of the same village reported that they got loans for marriage and consumption purposes from the landlords on condition of working for them. They have to remain bonded to the landlords so long as their loans are not repaid. They report that it is not a rare thing but usual practice because of the pressing needs for subsistence.

Muniappa and Munappa of Solur village who own and operate some small pieces of land by hiring bullocks at the cost of Rs. 20 per day for tilling their land report that they have to work for the owner of bullocks taken on loan for its repayment. They have to do so because they are unable to pay the bullock loan outstanding against them because of hiring bullock for three to four days at the rate of Rs. 20 per day.

All these instances validate the Bhaduri-Prasad contention of bonded labour. The concept of bonded labour is practised in the villages through consumption loans though the concept of bonded labour has been removed by legislations. This situation is exploited by the landlords because of the socio-economic pressures on their subsistence and of their helplessness prevailing in the present context.

The bondage of labour to landlord/or bullock owner through bullock loans is another dimension of bonded labour which is found relating to scheduled caste household operating marginal or small holdings. The getting of bullock loan by scheduled caste households on condition of repaying it by working for the bullock owner worth of loan value may be said by some people that it is a kind of exchange but not a form of bondage. Apparently it looks true. But the question is : Why they do so ? They take bullock loan because of socio-economic compulsions which they have to undergo because of the prevailing agrarian conditions of production. Hence, getting bullock loan on condition of putting in their flesh and blood is a kind of their helplessness which makes them bonded to the bullock owner ; i.e., landlord for a temporary period in a year. Moreover, this goes as a regular feature.

V. Conclusion

Scheduled castes belong to the lowest ladder of caste-bound-village society. A majority of them are landless. Some of them are, however, poor peasants. And so the main source of livelihood is labour. The casual and bonded modes of employment which are a product of the agrarian structure determine their earnings. All this suggests that they more or less depend on market for subsistence consumption. The socio-economic conditions will not improve unless some radical measures are adopted.

Fund's Decisions of March 2, 1979

Numbers should be encouraged to adopt corrective measures, which could be supported by use of the Fund's general resources in accordance with the Fund's policies, at an early stage of their balance of payments difficulties or as a precaution against the emergence of such difficulties.

The normal period for a stand-by arrangement will be one year. which may be extended up to but not beyond three years.

Stand-by arrangements are not international agreements and therefore language having a contractual connotation will be avoided in stand-by arrangements and letters of intent.

In helping members to devise adjustment programs, the Fund will pay due regard to the domestic, social and political objectives, the economic priorities, and the circumstances of members, including the causes of their balance of payments problems.

Appropriate consultation clauses will be incorporated in all stand-by arrangements. Such clauses will include provision for consultation from time to time during the whole period in which the member has outstanding purchases in the upper credit tranches.

Phasing and performance clauses will be omitted in stand-by arrangements that do not go beyond the first credit tranche. They will be included in all other stand-by arrangements but these clauses will be applicable only to purchases beyond the first credit tranche.

A member may be expected to adopt some corrective measures before a stand-by arrangement is approved by the Fund, but only if necessary to enable the member to adopt and carry out a program consistent with the Fund's provisions and policies.

Performance criteria will normally be confined to (i) macro-economic variables, and (ii) those necessary to implement specific provisions of the Articles or policies adopted under them.

The Impact of Multinationals on Economic Sovereignty of Less Developed Countries

Arun K. Datta *

A controversy is currently raging over the question whether the developing countries who have only recently received their nationhood can retain the sovereignty over their economic policies in a politically fragmented world dominated by a number of large multinational corporations.[1] No matter who writes on what aspect of the multinational corporation, the question of economic sovereignty of the host countries in which production facilities of the multinationals are located, implicitly or explicitly crops up. Some writers view the dominance of the world economy by a few giant multinationals led by the U.S based multinationals to a revival of colonialism in a new guise.[2] Others view the rise of the multinationals as a welcome development because they contribute to the growth and development of the world economy as a whole through their superior technology, managerial skill, improved market access etc

There is sharp diagreement as to the desirability of the economic domination of the world by the multinational corporations. But most writers agree that one important consequence of the emergence of the multinationals is the gradual erosion of the sovereignty over the national economic policies of the non-communist world.

Professore C.P. Kindleberger is not only convinced that a world economy dominated by a few large multinational corporations is not

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* University of New Brunswick, Canada.

[1] A multinational corporation is defined here as an enterprise which has production or extraction facilities in more than one country.

[2] See Editor : Hugo Radice, *International Firm and Modern Imperialism*, (Penguine, 1975).

only desirable but confidently predicts that the entire world economy probably with the exception of the centrally planned ones will be integrated under their aegis. Presumably it will be the few large U.S. based multinationals which will lead in the process of integration of the world economy and the multinationals based in Germany, Japan, the U S., Holland and France will follow their lead. He says, "The nation state is just about through as an economic unit. General de Gaulle is unaware of it as yet, and so are the Congress of the United States and the Rightwing no-nothings in all countries".[3] Furthermore "tariff policy is virtually useles....The world is too small. It is easy to get about. Two-hundred-thousand tankers and carriers and containerization....air-bases, and the like will not permit sovereign independence of the nation state in economic affairs".[4] While Professore Raymond Vernon does not explicitly predict the disappearance of the nation state in an age dominated by the multinational corporations, nevertheless he points out incongruity of the nation state and the multinationals in this age.[5]

Professor Kindleberger envisages a role for the multinational corporations in the world economy which is analogous to the role played by the national corporations in the U.S. economy in an earlier period. They have been given credit for unifying the economy of the United States. They did this by three means. First, the corporations invested capital in those regions of the United States where labour was cheap and abundant and thus equalised the returns on capital and labour across the entire country. Second, by using the media for the purposes of advertisement for the sale of their brand name products, they succeeded in creating a nation wide market homogeneousing the taste of population. And finally they created a class of executives which was free from any regional or parochial loyalty.[6]

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[3] C.P. Kindleberger, *American Business Abroad: Six Lectures on Direct Investment,* (Yale University Press, New Haven and London 1969) p. 207.

[4] Kindleberger, *ibid*, pp. 207-208.

[5] "....the advanced world, carried ebulliently on the crest of a technological revolution in transportation and communication, has absent mindedly set up a virile system of international institutions and relationship that set alongside the system of nation-state". "Economic Sovereignty at Bay" *Foreign Affairs* October 1962, pp. 119-120.

A process of integration of the world economy with the possible exception of the centrally planned economies that took place in the United States in the past is at work. There are a large number of multinational corporations led by the U.S. based multinational corporations which view the entire world as an outlet for their products. All attempts are being made to create a taste for their products with the aid of the advertisement media in different countries. A new generation of corporate executives has been created whose only loyalty is to the corporation it serves.

This view of Kindleberger about the present and future role of the multinationals in integrating the world economy under their hegemony has been challenged by Professor Edith T. Penrose as far as the less developed countries are concerned [7] In her view, the multinationals will be prevented from carrying out the task of unifying the economies of the less developed countries under their aegis for three reasons. Firstly, the rulers of these nations who have only recently acquired their nationhood are not about to relinguish or surrender the responsibility of governing the economic destinies of their people to the executives of the multinationals based in different countries. Secondly, the emphasis which the new rulers place upon socialism, which is in most cases synonymous with an extension of the public sector, is according to Penrose, incompatible with an increasing role of the multinationals in these economies. And finally, the increased role of the multinationals will revive the fear of colonial exploitation in the minds of the leaders and therefore they will oppose them [8]

Undoubtedly the intraction between the mulinationals and the less developed countries creates both actual and potential conflicts of interests.[9] It is also true that the rulers of the less developed countries have an ambivalent attitude towards foreign capital in general and the multinationals in particular. Nor are the leaders of these countries display a uniform attitude towards foreign capital. These are evident from the statements which the leaders make before the national and international forums from time to time. The question that arises is whether the rulers of the newly emerged nations can fulfil the promise of a rapidly higher standard of living and also retain the economic sovereignty. Is the role of multinaionals incompatible with a growing public sector ? Are the multinationals replicas of the colonial enterprises ?

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[6] Kindleberger *op. cit.* pp. 187-188.

[7] Edith T. Penrose, "The State and Multinational Enterprises in Less Developed Countries' in *The Multinational Enterprises*, Editor : John H. Dunning (George Allen and Unwin Ltd. London 1971) pp. 221-239.

[8] Edith T. Penrose *ibid*, p 228.

The answers to these questions are 'no' and for numerous reason. It is well to mind that the world has radically changed since the end of the second world war and the environment in which the multinationals function is very different from the one in which the private enterprises functioned in a colonial era. If there are any similarities betwen these two types of enterprises, they are superficial.

Professor Penrose reads too much in the rhetorics of the leaders of the many of the less developed countries[10] and reposes too much trust in the ability of these countries to promote and sustain rapid and substanial rate of growth of their economies. She appears to underrate the attractiveness of the multinationals as a vehicle of economic growth. The decline in the flow of aid from the developed to the less developed countries in recent years coupled with the realization that the foreign aid has failed to stimulate the economic growth of the recipient countries to the extent that was desired and needed, has heightend the need for the multinationals in the process of the economic development of these countries.

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9. See "The International Firm and National Economic Policy : A Suruey of Some Issues" by Thomas Parry in the *Economic Journal*, December 1973.

10. "This is not a new experience, multinationals have got used to platform speeches by politicians We also realize that many observations of politicians are meant for the gallery, because they also know what is good for the country".

P. K. Sanyal : *Illustrated Weekly of India*, Sept. 15-22, 1978.

The strength and attractiveness of the multinationls lie in their ability to provide a package of "capital, technology, management and market access"—all of which are vital to the growth and development of these countries They need to be supplied as a package. By now it is widely held by the development economists that one reason for the failure of the foreign aid to promote the growth of the economies of the countries which received aid was that the aid was not accompanied by other elements which the multinationals alone can provide. At the same time it is too much to expect from these countries to supply the various ingredients of the package indigenously so as to preclude any vital role for the multinationals in their pursuit of the goal of rapid rise in the standard of living of the people of these countries.

If the leaders of the less developed countries are genuinely serious about fulfilling the promises of a higher and better standard of living for their people, they have to increase their dependence on the multinationals to fulfil them. Of course the degree of dependence on the multinationals for economic growth will vary from country to country. So is also the involvement of the multinationals in the economies of different countries. But what is important is the increassng dependence of the less developed countries on the multinationals for their rapid economic growth.[11]

But the multinationls pay little or no regard to the national boundaries. They regard the world as their oyster.

"The [global] company views the world as a single entity. Its perspective transcends all national boundaries. Decisions are made not in terms of what is best for the home country or any particular product group, but in terms of what is best for the corporation as a whole on an international basis.

The basic principle on which these corporations operate is this: taking the entire world as their market, they tend to organize production, distribution and selling activities with as little regard for national [political] boundaries as the realities of time and space permit."[12]

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[11] The economists with leftist learnings concede that on the whole the leaders of the less developed countries are increasingly relying upon the multinationals for their growth and development of their economies. This is in sharp contrast to what they say in public. **See** *International Firms and Modern Imperialism,* (·Penguine, 1975), **Editor Hugo Radice, especially the essays.** Numbers 4, 5 and 1.

In the matter of decision making the mutinationals retain the full control. The ultimate power of decision making affecting the global objectives of the multinationals vests in the select few at the headquarters of their organizations. They will not share the responsibility with anyone else. Whether or not to open a subsidiary or to participate in a joint venture, is decided by them on the basis of their objectives of global profit maximization Stephen Hymer has elaborated on the decision making process of the multinationals and has shown that no sovereign power can influence or dictate them in their decision making process. [13]

What all these amount to is that if the leaders of the less developed countries are serious about fulfilling their promises to their people, they have to rely more on the multinationals to carry out their promises. And multinationals will help them in carrying out their promises only on the terms which are acceptable to them.

Professor Penrose's view that the leaders of the newly emerged countries are not about to surrender their power to govern the economic destiny of their people is contradicted by the realities of the situation. Dr. Deepak Nayyar has suggested that the compitition among the multinationals based in different countries is the one of the key factors in determining the site for the location of production facilities by the multinationals. [14] But he seems to ignore that the competitition among the less developed countries to attract the multinationals is also fierce. Each is competing with the other to offer the attractive incentives to locate their production facilities in their economies and to convert them into parmanent export enclave.[15]

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[12] Quoted by G. Adam in "Multnational Corporation and Worldwide Sourcing" in *Internationa lFirms and Modern Imperialism*, (Penguine, 1975), p. 90, from *Business International* (1967) 1975. "Corporate Planning Today for Tomorrow's World Market", July 1975, (Research Report).

[13] "The Multinational Corporation and the Law of Uneven Development" in Hugo Radice (Editor) *International Firms and Modern Imperialism* (Penguine, 1975), pp. 43-56.

[14] "Transnational Corporations and Manufactured Exports from Poor countries", *Economic Journal*, March 1978, p. 73.

The contention of Professor Penrose that the presence of the multinationals in the economics where public sector has been assigned a vastly increased role in the name of socialism or economic planning is incompatipatibe, is neither based on the logic of economic growth nor on observed facts. Both the Governments of the Soviet Union and the People's Republic of China have made room for the multinationals in their economies. If the role of the multinationals in these economies are not increasing as fast as it could have been the reason lies in the govenments of the countries of the multinations not permiting them to locate their business in these countries.

The public sector undertakings in the less developed countries are as much dependent if not more on the multinationals as the private sectors. This is because most of the public sector undertakings are technology intensive and have a very large foreign exchange components both of which are in short supply in these countries. For example, in India most public sector undertakings are in the areas of steel, heavy chemicals, fertilizers, heavy machinery, power generation, pharmaceutical etc. all of which require a high level of technology and foreign exchange resources. Yet India has officially proclaimed socialism as the goal to be realized. And Nehru, whose credentials as a socialist while not impeccable, cannot be dismissed. He clearly saw a positive role of the foreign capital in building up the nation's economy. While he was anxious to provide various safeguards to the economic interests of India, yet be offered generous terms to the foreign enterprises for participation both in the private and the public sector of the Indian economy.[16] In fact the number of joint

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15. G. K. Hellenier, "Transitional Enterprise, Manufactured Exports, and Employment in less Developed Countries". *Economic and Political Weekly* (Bombay), Vol. XI, Nos 5-7, pp. 247-263.

16. For details see the Prime Minister's statement in the Parliament on April 7, 1948, Reprinted in the *Fiscal Commission Report* 1950, (Government of India).

venturses in the public sector of India has been increasing over time and that trend will continue in the future.[17]

The fear of the revival of exploitation reminiscent of the colonial days exists in the minds of the many of the leaders of these countries. The memory of the indiscriminate exploitation of resources and people by the colonial enterprises is too recent to be wiped out from the memory. But the multinationals of today are neither the successors of the colonial enterprises of yesterday nor are they their replicas. Neither are the executives of the present-day multinationals the counterparts of the executives of those colonial enterprises. They cannot expect the same kind of support from their governments as the executives in the colonial days did in carrying out their economic policies.

The executives of the present-day multinationals are as much interested in maximizing profits on their global assets as the executives in the colonial enterprises were. But the latter were indifferent to all other aspects. But the executives of today in the process of maximixing profits make a positive contribution to the economies of the host countries by developing resources, creating new skill and upgrading the existing ones, training managers, supplying new technology and bringing these economies to the vortex of the international economy. Undoubtedly the benefits are not spread evenly between countries. Some benefit from them more than others. In today's world they have become such an indispensible vehicle of growth that most less developed countries are willing to pay a little higher price for the package which the multinationals can alone offer.

Professor Penrose underestimates the powerful role which the advertising media can play in creating market for the brandname products of multinationals in the less developed countries. The popularity of the products produced by the multinationals in these countries is evident. It is only a few who today can afford to purchase them. There are widespread smuggling of these commodities in these countries. The governments of these countries had to resort to various restrictive measures to deny people the access to the supply of these commodities. Ceratainly for years to come they will continue to do so. But a pressure is building up to liberalise the imports of the brandname products on the governments which they cannot indefinitely withstand. With increased economic growth when markets will be created for the products the multinationals will set up the production facilities in these countries.

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[17] Reserve Bank of India (1974), *Foreign Collaboration in Indian Industry*, Second Survey Report (Bombay).

The process of integration of the world economy has already began. The developed countries have achieved integration in large measure. The less developed countries are behind but a similar process is already working.

But the process of integration will not be easy or without tension. The multinational corporations generate tensions and conflicts between various cultural and elite groups in the less developed countries. And the tension and conflict between these groups will persist in the foreseeable future. [8] But since the overriding objective is economic development and the multinationals are the most effective vehicles for the realization of the objective, it will be those groups which are behind the multinationals who will prevail.

18. See Raymond Vernon : *Sovereignty at Bay* (Pelican 1971) pp. 168-188.

WORKING OF MULTINATIONALS IN INDIA

The total assets of multinationals rose to Rs. 2.390 crores in 1977-78 from Rs. 1 160 crores in 1971-72.

The profits before tax of these multinationals in 1971-72 was Rs. 53.6 crores, against Rs. 52 3 crores in 1977-78.

As for subsidiaries, their assets in the relative periods were Rs. 1,145.14 crores and Rs. 1.740 crores. Their profits were Rs. 170.63 crores and Rs. 140 6 crores.

Remittances made by multinationals and their subsidiaries in 1971-72 were Rs 80.70 crores and these rose to Rs. 115.30 crores by 1977-78.

The Employment Strategy of the Draft Five Year Plan (1978-1983)—I

AN ASSESSMENT

A. C. Minocha*

1. Unemployment is not an isolated phenomenon that can be dealt with by some ad hoc measures. It is an overt symptom of deep-rooted malady and a manifestation of the contradictions of the socio-economic system that we operate in the country. The main object of this paper is to make an assessment of the employment strategy of the Government as evolved in the Draft Five Year Plan (DFYP) against the background of contradictions of the economy which have given rise to the problem.

2. The principal objective of the five year plan (1978—83) is defined as achieving within a period of ten years' "the removal of unemployment and significant under-employment." To achieve this objective, the employment strategy is intended to adopt an employment intensive sectoral planning, regulate technological change to protect and enhance employment and promote area planning for full employment. The DFYP claims to have made inter-sectoral allocations and worked out targets with the main objective of employment generation. It has shown its awareness of the problem, its gravity, its magnitude and methods of solving it, but has shown timidness and evasiveness when it comes to making an assault on the basic socio-economic fabric of the society or when it comes to institutional changes for the effective implementation of the plan. The following line from the DFYP is an ample proof of this evasiveness : "Modern large-scale industry is characterised by a fundamental alienation between work and property, wage income and profit income. This alienation generates chronic industrial strife. In Gandhian, socialist as well as progressive liberal thought, there is converging consensus that this strife can be minimised only if the modern corporation evolves as a socially responsible entity in which capital, labour and most of the society reconcile their interests as effective partners in management and ownerwhip." (page 12 pare 1.75).

3. Let us highlight some of the trends in unemployment in the past, not so much to emphasise that what could not be achieved in the past, cannot be achieved in the future, but to focus attention on the nature and magnitude of the problem.

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*Professor, School of Social Sciences, Bhopal University, Bhopal.

4. According to the estimates of the Planning Commission (PC) active labour force has increased from 227 million in 1971 to 261 million in 1978 and will increase to 290 million by 1983, The number of chronically unemployed would be about 4.4 million in 1978 as against 3.6 million in 1971. In March, 1978 unemployment was estimated at 20.6 million person years—16.5 million in rural areas and 4.1 million in urban areas and the rate of unemployment defined as the ratio of person years unemployed to person years available has been put at 7.56% in rural and 8.7% in urban areas. On the assumption that the present trend would continue, the PC has projected that 29.5 million persons will enter the labour force in the coming 5 years, at the rate of 5.9 million a year. In the rural areas the main problem is not of chronically unemployed but of seasonally unemployed. According to 27th Round of the NSS, chronic unemployment accounted for only 1% of rural labour force in 1972-73.

5. Recently the Rural Labour Enquiry (1974-72) has revealed that the total rural households increased from 70.4 million in 1964-65 to 82 million in 1974-75 ie. by 16.6% but that of agricultural labourers shot up from 15.34 million (21.79% of the total rural households) to 20.74 million (25.26%) or by over 35%. This fact was also revealed by 1971 census. PC has also estimated that the number of landless labourers has increased by about 19 million during 1961-71 and the share of landless workers in the total unorganised work force has gone up from 18% to 24%. This increase may be attributed to factors like proletarisation of small farmers, tenants, artisans and women workers, evictions, technological displacements, distress sales by poor farmers, presence of concealed tenancy, growing pressure of population in rural areas and slow growth of agriculture.

6. Another finding of the Enquiry is that the employment opportunities for agricultural labour households have been actually declining. The estimated number of full days worked by men of agricultural labour households for wage employment in different agricultural operations declined from 208 in 1964-65 to 185 in 1974-75, that by women from 138 to 129 and that by children from 167 to 145. This decline n wage employment has been compensated by more self-employment The number of days of self-employment increased only slightly from 30 to 33 for men, from 27 to 35 for women and from 62 to 78 for children.

7. The Report presents a comparison of the main findings of all the four agricultural labour enquiry committees beginning from 1950-51.

It shows that during the period 1950-51 to 1964-65, wage paid employment in agriculture for male members of households increased from 189 days in 1950-51 to 194 days in 1956-57 and further to 217 days in 1964-65 and for female workers from 120 days to 131 days and 149 days but in the subsequent decade up to 1974-75, farm employment registered a sharp drop from 217 days to 193 days for male and from 149 to 138 days for female labourers.

8. The following table shows that the average daily wages in real terms of each category of agricultural laour households have gone down.

Category of households	All agricultural operations					Non-agricultural operations				
	64-65 Rs	74-75 Rs	%increase over 64-65	Wages in real term in 74-75 (at 64-65 prices)	%increase	64-65 Rs	74-75 Rs.	% income in real terms in		% increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Agricultural labour households										
Men	1.43	3.24	127	1.26	—12.0	1.54	3.27	112	1.27	—17
Women	0.95	2.27	139	0.88	— 7.4	0.92	2.12	130	0.82	—11
Children	0.72	1.82	153	0.71	— 1.4	0.74	1.84	149	0.72	—3

Source :-Economic and Political Weekly-14th October, 78, page 1727.

9. Some estimates of educated unemployment have also been made available by the PC which reveal tremendous wastage of educated manpower and lack of manpower planning in the country. The current rate of unemployement among graduates has been put at 10%, if the present trend continues, it is likely to increase to 15%. In 1977-78, 2.4%. of the stock of engineers (graduates), 5.9% of agricultural graduates, 10.4% of diploma-holders (engineers), 1.9% of medical graduates, 10,9% of arts graduates. 4.3% of arts post-graduates, 16.1% of science graduates. 6.1% of science post-graduates, 12.6% of commerce graduates, 3.3% of commerce post-graduates were found to be unemployed. All these percentages are likely to increase by 1982-83 and the percentage of unemployed to the total stock is likely to increase to 27.2% over 1977-78. This is due to rapid increase in stock of educated persons.

10. The PC has regarded unemployment and poverty as twin

problems and the solution of unemployment has been envisaged through reduction in poverty and of proverty through reduction in unemployment. But as we shall see in a subsequent section of this paper, it is not necessary that employment generation may mean reduction of poverty. Let us first have a look at the magnitude of the problem of poverty in India.

Percentage of population below the poverty line

	Below poverty line		*Below 75 percent of poverty line*	
	1977-78	1982-83	1977-83	1982-8
Rural	47·85	38·70	26·42	19·39
Urban	40·71	35·33	22·34	18·35
All-India	46·33	37·95	25·55	19·16

Source Draft Plan, 1978-1983.

11. How does the PC envisage distribution of total expenditure in the next five years to reduce poverty ? The distribution of total expenditure of the households has been worked out in the following manner : (i) aggregate per capita expenditure will grow at a rate of 2.21% per annum and (ii) the poorest segment of the households will cross the modified poverty line assumed to be at 75% of the level of actual poverty line. The actual poverty line is given by Rs. 61.8 per head per month for the rural population and Rs. 71.3 for the urban at 1976-77 prices. At what rate the per capital expenditure of the people below the modified poverty line should increase so that the objective of the plan is achieved ? The following table provides an answer to this question.

Per capita expenditure of people below modified poverty line and its growth rate

	Per capita expenditure (Rs. 00 per month)			Growth rate (percent per annum compound)	
	1977-78	1982-83 (A)	1982-83 (B)	(A)	(B)
Rural++	32·53	36·29	46·35	2·21	7·34
Urban+	36·81	41·07	53·48	2·21	7·76

(A) Withont redistribution, (B) With redistribution.

++ for the poorest 19.49 percent of population

+for the poorest 16.83% of population

(Source : Planning for Employment—A critique of sixth draft plan, R. Radhakrishna and Atul Sarma-Economic and Political Weekly-page 1287-Special number, August, 1978).

The table shows that to enable the poorest to cross the modified poverty line in 1982-83, even after increase of 2.21% in per capita expenditure. a rate of growth of 7% per annum is required in their per capita expenditure and if we take into account the growth of population of this segment at 2 percent, then total expenditure for this group will have to increase at about 9% per annum. This implies that given the present wage rate, the employment for this group has to expand at 9% per annum and employment for the rest of the population may grow at an annual rate of 4.30 to 4.50%, given the postulated rate of growth of 5.3% for all. The rate of growth of consumption envisaged in the DFYP cannot be achieved unless there is a drastic re-distribution of incomes in favour of the segment below the modified poverty line.

12. Another limitation of employment to be deployed as an instrument of poverty reduction is that many of the employment programmes envisaged in the DFYP have either not been explicitly stated or imperfectly worked out the question of transfer of assets and improvement of the value and productivity of existing assets for fuller utilisation of labour power as mechanism for creating additional incomes where by the poor can raise their consumption levels up to or above the modified poverty line used by the PC. The problem is not merely one of changing the rules of the game in providing institutional credit to the poor, but much more fundamental one of finding the required real resources and directly transferring to the poor. In a recent articlet* it has been worked out that using the modest poverty norms, at 1973-74 prices, an average poor household is seen to require a minium annual consumption and hence a minimum annual income of Rs. 2,576 and Rs. 3,171, in the rural and urban areas respectively, to attain the modest poverty norm. How this can be attained via the employment route ? If poor households have to be brought up even to the modest poverty line by provision of labour income through full employment, then the ruling wage rate at 1973-74 prices will have to be at least Rs. 4.89 in rural areas and Rs. 7.20 in urban areas on the average through the working year of 273 days. Can real wage rate be raised from Rs. 3 to 4.89 at 1973-74 prices, by over 60% along with high level of labour intensity ? This is doubtful. The poor households need not earn their income only through their labour power. They can transfer some assets which can give them a flow of annual income or which can enhance their productivity. At present a number of rural development programmes (SFDA, DPAP,CAD and IIRD) are tied up with crop husbandry schemes

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*Employment and Poverty Reduction in the Draft Plan, K. Sundram, J. Krishnamurthy — EPW, August 18, 1978.

which require certain minimum size of holding of land. There are about 34 million rural households which neither have any land holdings nor operate above 1.25 acres. For these households, crop husbandry programmes have not much significance. Similarly programme of breeding high yielding stock of milch cattle can yield benefit for those who possess this type of asset. It has been estimated that in rural households operating holdings of less than 1.25 acres, the total value of non-farm business equipment owned per household is less than Rs. 50 and this is too small a base for asset improvement as a means of poverty reduction. In the case of rural households whose assets are less than Rs.1000. (nearly 20% of total rural households) less than 31% reported any borrowings from insitutional sources. Even the programmes envisaging so-called transfer of non-land assets are not likely to enable the poor in rural areas to earn a level of income insufficient to lift them above the modified poverty line. It is difficult to assess the impact of the plan on urban poverty since the DFYP does not articulate programmes which have the urban poor as the target group. Employment targets for the urban households below the poverty line, have not been separately provided even at the aggregate level. This analysis suggests that in the Indian context of near assetlessness of the poor, programmes for actual transfer of assets are a pre-requisite for using asset improvement and fuller utilisation of labour power as a method for creating an income earning potentiality. No such concrete programme of transfer of assets to the poor both in rural and urban areas have been worked out in the plan document nor is there any serious mention of such programmes.

13. Let us now see how and where the unemployed are proposed to be employed by the plan document ? Regarding educated unemployed the PC has expressed the pious hope that if the organised sector grows at a rate of 6 to 71 per annum, employment opportunities for graduates would increase significantly. A number of incentive schemes for generating self-employment would be launched, particularly in the small-scale industry sector. Moreover, expansion of rural infrastructure and revised minimum needs programme would absorb thousands of educated persons. but no quantification has been made and no fundamental changes have been contemplated in the education system and no man-power budgeting has been made. Since most of the urban unemployment is an overflow of rural unemployment, we shall mostly concentrate on rural unemployment and under-employment problem.

14. Between 1971 and 1978, whereas labour force increased by 35 million, non-agricultural activities absorbed only 9 million, about 1/2 in the organised sector and 1/2 in the informal sector. At

present the recorded sector, absorbs only 11% of the current annual increase in labour force, while 89% are forced to eke out their living in the informal sector, including agriculture. It has been estimated that even if organised industrial sectors were to grow at a rate of 6 to 7% per annum, much higer than the observed rate, it would absorb only 0.3% of labour force annually. So the reliance of the PC on the expansion of the organised sector for absorbing educated unemployed, would be a wishful thinking.

15. The distribution of work force across the main industrial divisions shows that the share of agriculture in the work force has not diminished over time as is indicated by the following table :

Year	Agriculture	Mining & manufacturing	Others
1921	73.1	9.0	17.9
1931	72.0	8.7	19.3
1941	74.0	9.2	16.8
1951	72.8	9.3	17.9
1961	73.0	10.4	16.6
1971	73.8	9.8	16.4

(Source : Draft Plan, 1978-83, page 95).

The table shows that fairly rapid growth in non-agricultural sector in the last 25 years of planned economic development has failed to make any noticeable impact on industrial distribution of working force. Employment growth in these sectors has grown at an insufficient rate so as to absorb an increasing proportion of labour force. The plan document observes : "Investment and output have grown at a high rate but the product-mix and the technology-mix have been so capital-intensive that employment did not grow *pari passu*. Between 1961 and 1976, for example, in the modern factory sector, investment increased by 139% and output by 161% but employment increased by only 71%. Therefore employment per unit of gross output decreased by 34%. and employment per unit of capital declined by 28%. "(FYDP page 82). Predominance of unorganised sector in the employment profile is revealed by the fact that this sector accounts for 99% of workforce in agriculture, 78% in manufacturing, 34% in mining, 58% in construction 70% in trade, 67% in services. About 61% of total labour force and 67% of unorganised work force is self-employed in farm and non-farm activities.

16. The PC has worked out the projected rates of growth of employment to be achieved in 1982-83. The following table gives the sectoral growth rates in employment, output and value added :

Projected growth of employment, 1977-78—1982-83

Sector	Employment 1977-78—1982-83 million person years		Increase	annual growth	Annual growth of value added	Annual growth of output
1. Agriculture & allied sectors	99.21	121.98	22.77	4.22	2.76	3.98
2. Mining	0.90	1.35	0.45	8.45	9.07	8.84
3. Manufacturing	22.74	31.65	8.91	6.83	4.67	6.85
4. Others (including services)	44.22	61.35	17.13	6.77	6.52	
5. Total	167.04	216.33	49.26	5 30	4.70	

Source : Draft Plan 1978-83, page 87.

17. The highlights of the table are the following :

(i) A growth rate of 4.7% with an incremental capital-output ratio of 4.2 has been visualised to generate an employment growth rate of 5.3% per annum.

ii) The projected growth rate of about 4% per annum for gross output as well as for labour absorption in agriculture would provide 46% of the additional expansion of employment over the next five years.

iii) With the projected rate of 6.9% for gross output and employment growth rate of 6.83 per annum, the manufacturing sector is expected to provide 18% of additional employment.

iv) Other sector including services with a projected growth of output of 6.2% and employment growth rate of 6.77% is expected to account for 25% of incremental employment in the next five years. Mining sector will provide only 1% of additional employment.

v) The village and small scale industries are expected to generate 6.8 million person years of additional full-time employment and also part-time employment for 6.27 millions.

vi) Employment in the organised sector will grow by 3 to 3. 5% per annum but this growth will absorb only 0.3% of labour force. "Therefore the solution of the employment problem will have to be sought in increasing income and employment in agriculture and allied activities and in small scale manufacturing and service sector." (DFYP para 4.55).

(To be continued)

Strategies for Planning for Employment Promotion in India : Role of Monetary and Fiscal Policies

D. D. Guru*

The necessity of planning for achieving the objective of fuller employment is now an unquestionable proposition. But there is no unanimity regarding the appropiate strategy of planning for achieving the objective of fuller employment. The policies to be followed by the state present themselves in varied forms. They have their macro and micro aspects. The micro level planning at various regional and sectoral level is, no doubt, important in determining the rate of growth of income and employment opportunities in a given region or sector. The significance of macro aspect of the planning for employment promotion is also there. This is for the obvious reason that the micro level programmes for employment generation have to be framed only in the perspective of a macro-level strategy of planning for employment creation. The objective of the present paper is to analyse the implications of macro aspects of strategy of planning relating to the monetary and fiscal strategies. The paper is divided into three parts. The first deals with the general shortcomings of the strategy of planning in relation to employment in the earlier years in India. The second part discusses the aspects of monetary and fiscal policies appropriate for the employment promotion in the Indian conditions. The third part gives the main conclusions and suggestions.

I

The adoption of planninining as a method of improving the well-beings of the masses in the post-Second War years by the

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* A. N. S. Institute of Social Studies, Patna, Bihar.

emerging independent developing countries was mainly from the point of view of increasing the rate of economic development. The process of economic development was supposed automatically to solve the problem of employment in such economics. The strategy of planning adopted by the countries, therefore, was more oriented towards maximising the rates of economic development in the short and long terms perspective. The emphasis of industrial growth especially of large scale type and the consequent importance of heavy industries for producing the required capital stock led to the adoption of a strategy of planning suited to the capital-intensive technology for accelerating the rates of growth of economy with, naturally, relatively lower emphasis on maximisation of employment in the economy. The higher rates of growth of population together with the capital-intensive strategy of planning led to the growing volume of unemployment in these economics. The process of economic development thus brought about through the strategy of planning adopted in these countries had been development-oriented and not employment-oriented. The development objective was achieved to some extent. But the problem of unemployment continued to become more and more serious. The volume of backlog unemployment kept on increasing over the years.

The problem of poverty also became more and more acute during the period of planned development. The growth in unemployment has been an important—rather most important factor in the accentuation of the problem of poverty. This is for the obvious reason that the poorest among the poor are those who are unemployed. The increase in the number of unemployed had the natural consequences of not only increasing the size and percentage of population below the poverty line but also of bringing about frustration and social unrest which had their impact on the productivity in the economy. The expanding volume of unemployment led to the fall in the per capita consumption of the families due to the increase in the number of non-earning dependents in most of the families. The non-utilisation or underutilisation of existing labour force in the economy had also the direct effect of slower rate of economic development. This is specially so in the case of industrial front. The rate of growth of industrial production slackened along with the growth of unemployment after the middle of sixties in India. The increasing volume of unemployment was found to be associated with increase in labour conflict, and heavy loss of mandays and decline in production. The adoption of the capital intensive technique of production with special emphasis on industrial development, no doubt, led to the increase in the productivity of labour force. But the possibility of increase in national income even with lower rate of labour productivity is greater if the larger volume of labour force gets productive employment. The strategy of planning adopted for maximising the the rates of growth of real income would demand a strategy of planning emphasising the use of labour intensive technique of production.

The strategy of planning adopted in India had been laying its emphasis on capital intensive and heavy industries. This has resulted in the unbalanced development as between different regions, sectors and among different income groups in the economy. The unbalanced growth in the economy is reflected in the widening of disparity between the stages of development in the different states on the one hand and the increase in the gap between the richer and the poorer classes in the economy on the other.

There is also a marked gap in the rates of development in the urban and the rural area. The fruits of the efforts for development have gone mostly to the urban areas. The rural areas have been generally neglected in the sense that the benefits of the planned process of development have gone to the richer classes of the rural sector. The benefits of the use of improved technology in agricultural sector, for example, have been generally reaped by the richer class of the rural areas who have adequate financial resources and land at their command to avail of the facilities of improved technology of agriculture. The problem of rural poverty could not be properly taken care of. This is reflected from the increase in the number of rural unemployed on the one hand and the reduction in the average size of holdings of the lower sizes on the other. The number of smaller and the marginal farmers have been on increase.

The problem of the urban poor is no less alarming. The possibility of getting seasonal employment during peak season of agriculture which is available to the rural labour force is not there in the case of urban unemployed labour force. They have to remain unemployed for the whole year·if they are unable to find employment.

The creation of whole time employment is, therefore, of utmost significance. The spurt in the number of educated unemployed both in the rural and urban areas in the years of planned economic development in the country has now taken all-time alarming dimensions. Most of the families in the urban and rural areas have now one or two educated unemployed. Such unemployment is not only a reflection of the non-utilisation of the labour force but also of the loss of the capital spent in the their education. The scarce savings of the poorer householders of the country as well as the public investment made in the development of education are just wasted if the educated population is unable to find appropriate employment

The problem of unemployment is linked with the problem of development. This is because what is desirable is to provide employment not for employment sake but to provide productive employment. If the number of unemployed is increasing it could be obviously because of the lack of developmental avenues of the proper kind in the economy or the lack of effective developmental demands in the economy or it could be due to the scarcity of material or financial resources. In the Indian conditions it is neither the lack of demand nor the shortage of natural resources that stands as a severe bottleneck to the problem of generation of productive activities and hence employment. It is rather the shortage and the bad distribution and the use of the scarce financial resources which seem to be the cause of the lack of generation of productive employment and hence of growth of employment in the country. The solution of the ploblem of unemployment lies in mobilisation and proper utilisation of the existing financial and material resources in providing productive employment to the labour force in the economy.

The shortage of the domestic financial resources could be covered through the mobilisation of the external savings in the forms of loans, foreign and private investments and Governmental assistance from foreign countries. The institutional changes in the form of altering the production relations though also important could not bring about by themselves significant changes in the creation of additional employment opportunities. It is necessary to improve the generation and the proper use of the domestic and external savings of the community in the direction of encouraging productive activities.

II

The mobilisation of domestic and foreign finance as well as its proper channelling into the direction of creating maximum productive employment opportunities depends very much on the objective and the mechanics of operation of the monetary and fiscal policies of the country. The incentive and the disincentive structure of the monetary and fiiscal policies largely determine the flow of financial resources into the various forms of productive and unproductive financial investments The flow of financial resources through the Governmental channals in the forms of taxation and expenditure determines not only the size and the pattern of investment in the public sector but also influences the pattern of flow of resources in the private sector. Generally speaking, public investment is determined to a great extent by the fiscal policies followed by the Governments at the centre and the state level. The monetary policy, on the other hand, is important in the determination of size and the pattern of investment in the private sector

The investments made in the public and the private sectors have natural impact on the process of growth and on the generation of employment opportunities. The fiscal-monetary strategies in the existing conditions are generally in macroeconomic perspective and are operated in blanket way. They are generally applicable for the economy as a whole with only minor exceptions for certain regions and, in some cases, for specific sectors of the economy. This is more true for the monetary policy where the changes in the cost and availability of credit are supposed to be regulated by the Central Bank to determine the size and the direction of the flow of credit in the economy. The general and the selective methods of credit control determine the size and flow of bank credit in the desired sectors. The monetary policy generally does not distinguish significantly between rural and urban areas. Nor is there variation in the policy with regard to the beneficiaries falling in the various income groups in the case of monetary policy except for the limited use of differential interest rates.

It is, of course, true that the distinction is made on the basis of backward and advanced regions. But this does not in itself attack the problem of poverty directly. There are both poorer and the richer classes in the so-called backward regions. The benefits of liberal credit facilities are reaped by the affluent classes of the community in the so-called backward regions and the poorer section which is in greater need of credit is unable to get credit in desired extent. Similarly, the indication of the priority sectors by itself does not assure the flow of credit to the poorer section of the society. It cannot be denied that the special provisions of the 'priority sectors' enable the flow of credit for the production of goods which otherwise might have been neglected on account of lower rates of return of investments made in such sectors of the economy. The private enterprise has the tendency to hesitate to invest its own resource in such sectors.

It has been the general practice to rely more on monetary policy for bringing about stability in prices in the economy. The role of monetary policy in bringing about increase in employment opportunities is considered to be not so significant. This is possibly because of the Keynesian impact on economic policies. The growth of employment in economy is supposed to be more a function of effective demand which is said to be better operated through fiscal policy in the form of autonomous public investment. The monetary policy is considered important for controlling the rise in prices. But in the process of bringing about stability in prices there is the possibility of monetary policy being too restrictive and hence affecting the rate of growth. It is therefore suggested that the monetary policy should be operated in such a way as to restrain the price by controlling the credit and money supply only to the extent that it does not affect economic development. On the other hand, the use of fiscal policy in the process of financing development investment through deficit financing is also prone to raise prices. Hence its effect on price stability is obvious. The relative emphasis and importance of fiscal policy for growth and employment and of monetary policy for stability in prices are the reflection of the current debate between the 'Monitarists' and 'Keynesians' in the matter of economic policy in the country.

The monetarists version of the appropriate monetary-fiscal strategy for employment generations is presented in our country in the form of the schemes, known as *Semibombla and Fullamngal.* These schemes emphasise the necessity of a specific law for regulating the increase in the quantity of money in a year within the limit of percentage increase in national income. The 'rule' rather than 'discretion', according to this view, should govern the monetary and fiscal policies in the matter of supply of money for bringing about growth of income and employment on the one hand and stability in prices on the other.

The problem of creating employment opportunities is related to the strategy of planning adopted for economic development. As the phenomenon of rise in prices has been associated with process of economic development, the measures directed towards controlling the behaviour of prices become equally important from the point of view of generating employment opportunities in the economy. A strategy of planning which has the best possibility of bringing about stable or nominal rise in prices would be preferable from the point of view of economic development and the generation of employment opportunities. The role of monetary and fiscal strategies for employment generation, therefore, becomes important from the point of view of not only helping directly the addition of employment but also from the point of view of being able to contain the inflationary forces in the economy and thus helping indirectly in reducing the possible loss of employment arising out of the abnormal rise in prices.

If the explanation of rise in prices is to be found in terms of increase in the money supply brought about through the monetary and the fiscal authorities, the role of monetary and fiscal policies becomes obviously important. The point of view held by monetarists is that rise in prices in Indian condition has been caused essentially on account of the growth of money supply at a rate higher than the rate of growth in the economy. Prof. Vakil and Prof. Brahmananda provide a modified monetarist view and maintain that the relatively slower rate of growth in the supply of wage goods in the economy is equally important together with the increased money supply in explaining the inflationary situation and slower rate of growth of national income and employment. In other words, it is maintained that inflation is there because the money supply per unit of supply of wage goods has been increasing rapidly. Such a situation arises not only on account of the adoption of wrong strategy of planning with emphasis on heavy industry model but also due to the unwise monetary-fiscal policy of not checking the increase in supply of money.

According to them the objective of economic policy should be to bring about growth through creation of maximum employment opportunities. There is a clear possibility of trade-off between rate of growth in economy and rate of increase in employment. There could be higher growth rate with lower rate of increase in employment opportunities or alternatively the higher rate of growth of employment opportunities with relatively lower growth rate in the economy. The choice, obviously, from the egalitarian point of view would be for the latter type in which we should be prepared to pay, if necessary, the price of increased employment opportunities in terms of even slower rate of growth in the economy. The crucial point is productivity of labour and the technique of production. In the capital intensive technique of production, the productivity of labour is likely to be larger and hence growth rate might be higher but employment opportunities become restricted. In the case of labour-intensive technique, the productivity of labour is lower but creation of employment opportunities is higher. With the given volume of capital which is obviously scarce in the case of developing countries like that of ours, and with the abundance of labour force the choice of technique of production from the point of view of maximisation of productive employment can be only the labour intensive technique.

The labour intensive technique is also necessary for bringing about the adequate supply of consumers goods required for the maintaince of the labour force. The argument of Profs. Vakil and Brahmanda for increasing the supply of wage goods in the strategy of planning rightly points at the necessity of the adoption of labour intensive technique of production in the planning process in the country.

III

But the question arises as to what is the appropriate monetary and fiscal strategy for achieving the objective of growth and employment through labour intensive technique ? Profs. Vakil and Brahmananda have suggested in the line of monetarist school. According to them what is necessary is to regulate the increase in the supply of money at a rate equal to the rate of growth in national income in the economy. If the supply of money increases at a rate faster than the rate of growth of national income growth process, the monetary-fiscal policy strategy has to be directed, according to them, to control the supply of money-even-through legislation equal to the rate of growth of national income. This suggestion is based on the assumption that problem of price rise is caused due to monetary factors. It is this part of the argument of the monetarists which needs to be looked into deeply and this, naturally, takes us to the problem of price rise.

The phenomenon of rising prices in the Indian conditions can not be explained entirely in terms of changes in the quantity of money as the monetarists want us to believe. But the proper understanding of the price phenomenon is essential from the point of view of strategy of planning for employment promotion. This is for the reason that generation of employment depends on the level of private and public investments. The pattern of investment gets distorted in favour of financial investment instead of physical investment without any significant impact on employment under the conditions of rising prices. Similarly, increase in prices reduces the real value of investments made by the public and private sectors with natural consequence of slowing down the rate of growth of real income and employment in the economy.

The rise in prices generates an expectations regarding further rise in prices which helps in building up of speculative force in the markets of commodities as well as of the factors of production. The sepulative forces encourage buying of commodities and holding of stocks and thereby creating scarcity and selling the commodities at higher prices. Speculative forces are important in dictating and magnifying the increase in prices in the Indian conditions. Naturally, the monetary and fiscal strategy has got to take into account this factor more seriously than it is normally done. The attack on the speculative front could not be done through the monetary measures of controlling the flow of credit through interest rate and selective control policy. Speculation could not be checked by restricting credit or making the credit costlier. Speculation depends on the marketing power of the speculators and until and unless this marketing power is counteracted through strict commercial and distribution policy, speculations would continue to be an important cause of inflation and also a source of diversion of savings for speculative purposes rather than for making productive investment with adverse effects on both growth and employment.

The monetary and fiscal strategies of planning for growth and employment consist of various elements. The policy regarding the rate of interest is one of the three important elements among such various strategies The policy followed by the Central Bank with regard to the rate of interest determines both the size and flow of credit money on the one hand and the quantum and flow of internal and external savings on the other. There are serious repercussions of the policy of both lower and higher interest rates. While the policy of lower interest rates helps the generation of credit for development purposes, the higher rate of interest may become necessary for controlling the inflationary pressure in the economy and also for generating savings in the economy. On the other hand, while the higher rate of interest may act as a deterrent for investment climate, the lower interest rates can lead to excessive creation of credit and hence adverse impact on prices and growth.

What should be the appropriate strategy in the matter of rate of interest in the context of strategy of planning for growth and employment ?

The answer has to be found in the context of existing conditions of growing unemployment and proverty in India. The provision of production employment to the poor especially of the self-employed could be solved better under conditions of lower interest rates. The leading rates to the producers of labour-intensive productive activities specially for schemes of self employment have to be lower as compared to the rates for large scale producers with higher rates of profit. The policy of interest rate has to be one of differential interest rates for the different forms of productive enterprises. The higher rates of interest could be there for discouraging speculative trading in the form of hoarding of commodities resulting in the creation of artificial scarcity and then selling at higher prices. Higher rates of interest can also be possibly realised from the producers of large scale industries. But the flow of credit to the agricultural sector especially to the small farmers has to be at a lower rate of interest. All these conflicting objectives could be achieved only when the policy of interest rate should be one of differential interest rates. The policy of differential interest rates has to be used as a tool of realising the objective of encouraging productive activities with relatively higher employment opportunities and discouraging productive activities with lower employment generating potential. The diffential interest rates policy has to be designed also for encouraging the flow of capital from the advanced regions to the backward regions. This is necessary from the point of view of bringing about balanced regional development. The exsisting pattern of flow of bank credit is guided purely by the criterion of profitability and hence the interest of the backward regions is adversely affected. There is the need for specific provision regarding the allocation of bank credit in the form of credit rationing for the different regions. This is specially necessary for removing the existing large disparity in the credit-deposit ratio for different States. The credit rationing is necessary not only from the point of view of the different regions but it should be related to the industrial enterprises using labour-intensive technology.

The employment potential in the rural sector needs to be fully utilised through development of agriculture and growth of household industries. The credit needs for the development of agriculture and household industries under the existing ·system of monetary policy is protected through the system of 'priority'. But the system suffers from the defect that the existing flow of credit to these sectors constitutes smaller percentage of the total advances of credit. The credit is only 32 per cent. It would obviously be much lower percentage if we take into account the total volume of credit advances in the economy. Agricultural credit accounts for only Rs. 1,300 crores as against the total credit of around Rs. 10,000 crores at the end of 1975-76. The total credit advanced to the rural sector which is the dominant sector in our economy receives far lesser amount of bank credit. It should not in any case receive less than 50 per cent to sixty per cent of the credit advanced by the banking sector. It could be possible only if there is strict enforcement of the principle of credit rationing keeping in view the interest of rural development and elimination of the problem of rural poverty and unemployment in the country.

The fiscal strategy for employment generation consists of measures relating namely to taxation and expenditure policies followed by the Central and the State Governments. The policy regarding taxation could be applied for providing relief or incentive to certain types of productive activities and discouragement to the others.

The fiscal strategy for employment promotion would be having a taxation policy suited for encouraging the expansion of production in labour intensive productive enterprises. The concession could be in the form of taxation on commodities produced or on income of the producers. But more important from the point of employment generation is the adoption of appropriate expenditure policy. The planned public sector outlays of the State and the Central Governments are provided through the annual budgets. The pattern of planned outlays has to be turned to the expansion of labour intensive enterprises. The emphasis on the decentralised means of production would naturally demand the greater degree of planned outlays by the State rather than by the Central Government. The question of devolution of finances from the Central Government to the State Governments has to be seen from this angle The awards of the Finance Commissions have also to be such as to help increase the planned outlay of the State Governments. The procurement of raw materals and the arrangement of the marketing avenues are two important problems for the growth of labour intensive small scale and household industries. Besides, the question of power availability and the production of capital inputs for such industries have to be arranged in larger dimensions. The fiscal policy has to take care of the encouragement and even direct state investment in these areas. All these can be possible only if the financial resources are available in required amounts to the State Governments and the individual producers. The existing schemes of development in these field need to be encouraged and new institutional avenues be explored.

The use of the increasing volume of foreign exchange reserves in meeting the needs of capital goods for the decentralised industries would not only go towards containing the inflationary impact of the growing foreign exchange reserves but would help in a massive way in the attainment of the objective of larger productive employment and higher rate of economic development.

The Impact of Unemployment—the New Zealand Case

P. Henderson*

The continuing economic crisis of the New Zealand economy has destroyed the widely held belief that New Zealand is still capable of maintaining levels of employment higher than anywhere else in the market economies.[1] The aim of the present paper is to examine the salient aspects of the impact of unemployment during the crisis and attempt an elucidation of the impact of unemployed on both occupational and industrial bases. All figures quoted are the latest available at the time of writing (March, 1979),

Part I: The Aggregate Figures

Although the present crisis in the New Zealand economy can be traced back to the dramatic turn around in the terms of trade in 1974,[2] the sharp rise in unemployment is of more recent origin. There are reasons for this notably the willingness of both Labour and National Government to borrow heavily abroad as an alternative to massively deflationary internal policies. Recent developments indicate, however, that the re-elected National Government may be in the process of reversing or abandoning this outlook. However, a discussion of this lies outside the present paper.

Table I gives the aggregated figures for the growth in unemployment since April 1976. The reason that this date was chosen as a starting point was that if was just about then that the serious pressures creating unemployment made themselves manifest. Table I gives the aggregate figures on the basis of a two-way split. These are the male/female breakdown and the distinction between registered unemployed (seasonally adjusted) and those on special job-creation programmes. These latter are employed by either Central

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* University of Otago, Dunedin, New Zealand,

or local Government or, more recently, the private sector. These groups are classed in Table I as unemployed since, lacking subsidised employment, they would presumably appear as registered unemployed. It is likely that the figures for registered female unemployed understate the decline in female employment since married women are not entitled to unemployment benefit on their own behalf and hence do not register in many cases. Unfortunately there appears no simple way of estimating the importance of this factor. In explanation of the listings in Table I, the male/female figures are self-explanatory: column 3 gives the seasonally adjusted figures for registered unemployed and column 4 gives registered unemployed plus those in the various subsidised job-creation schemes. The seriousness of the

Table I

Growth of Unemployment in New Zealand 1976—1978

				Total Seasonally Adjusted	Total (Including specially employed)
1976	Jan.	4016	2400	6200	10401
	Apr.	2384	2583	5310	10528
	Jul.	4405	2287	5106	12410
	Oct.	2482	1610	4640	12091
	Dec.	2790	2228	5020	11682
1977	Jan.	2884	2391	5080	11051
	Apr.	2082	2303	5090	10755
	Jul.	3957	2633	5370	12998
	Oct.	5827	3207	10550	18558
	Dec.	9215	6200	15660	24577
1978	Jan.	11547	7271	17760	27440
	Apr.	12278	9224	21840	35424
	Jul.	16620	9487	25840	46427
	Oct.	13471	8017	23180	49758
	Dec.	13200	9944	22550	48846

N. B. Male/Female figures are for registered unemployed.

.Source : New Zealand Department of Statistics.

series given in Table I (at least in terms of New Zealand domestic experience) can be gauged from the fact that until the crisis of 1967-9 New Zealand registered unemployment was a few hundreds per month at most. Even although post-1969 New Zealand never quite got back to these low levels the monthly average of registered unemployed during the boom year 1973 was some 2,300. If we include those on special work (column 4, Table 1) it is clear that in the period January 1976 to December 1978 unemployment had increased to some 470 percent of the figure for January 1976. Even this estimate probably understates the decline in employment opportunities, partly

Table 2 Registered Unemployed by Usual Occupation

(Figures for September Months)

	1976		1977		1978	
	M	F	M	F	M	F
Professional, Technical and Clerical	134	259	245	418	743	1188
Storemen, Packers	114	13	173	23	560	98
Sales Workers (Shop Assistants, etc.)	75	276	113	353	385	940
Farm and Forestry Workers	198	147	391	188	875	381
Drivers	189	5	265	7	803	57
Tradesmen	130	1	234	9	913	27
Freezing Workers	27	27	903	58	2934	96
Process/Factory Workers	264	470	503	737	1355	1970
Cooks and other Domestic Workers, etc.	69	421	112	514	387	1439
Labourers	1323	15	1850	54	5179	296
All other Occupations	144	101	297	135	1059	689
School Leavers (No previous full-time job)	78	200	176	317	772	1264
Total	3452	1935	5262	2813	15965	8445

Sources : NZ Department of Statistics.

because of the disappearance of some married women from the statistics but also because of the migration factor. Historically New Zealand migration patterns have been very sensitive to both internal and external economic conditions. For example, during the recession of 1967-9 large number of New Zealanders, particularly young people and skilled workers moved across the Tasman sea to Australia, which was then in boom. It is indicative of the intensity of the present crisis that although Australia has also been experiencing serious unemployment, migration figures show a similar net outflow from New Zealand to Australia. Unfortunately, the aggregated figures in Table I do not enable us to directly estimate the impact of total unemployment on a male/female basis since the figures for job creation schemes do not give a break-down on this basis. However, from the figures of registered unemployed it can be seen that female unemployment in aggregate increases rather more proportionately than male. This question will be taken up again later in the paper.

Part 2 : Occupational Unemployment

Table 2 lists the registered unemployed by their reported usual occupations. It is not possible to relate the occupational figures of Table 2 to the industrial figures of Tables (a,b) since (for example) an unemployed clerical worker might have been listed in the building industry when last employed or a labourer in any of the several industries. What is not in dispute in Table 2 is that all the occupations listed show rises in unemployment for the period covered. Several points appear to emerge from Table 2. On the figures shown the increase in female unemployment is about the same as that for males, proportionately.

A further point is the clear evidence of growing unemployment amongst school leavers. As may be seen from Table 2 the figures shown indicate that job-opportunity for unskilled females (inexperienced ?) seeking their first job is poorer than that for males in the same position. This is based on the assumption that boys and girls leave school in approximately the same numbers each year. This assumption is borne out by New Zealand Education Department figures of school-leavers.[8] This inference is given further support when we examine the rise in unemployment among female sales workers,

Table 3 (a) Changes in Employment in Manufacturing Industry

April 1976—April 1978

	M	F	% Change	M	F
Textiles, Wearing apparel, and Leather	−1044	− 200		− 7.0	− 7.6
Wood, and Wood products, including Furniture	−2921	− 275		−15.0	−14.0
Paper and Paper Products, Printing and Publishing	+ 523	+ 411		+ 2.7	+ 6.1
Chemicals ; Chemical, Petroleum, Coal, Rubber and Plastics Products	0	−118		0	− 1.9
Non-metallic Mineral Products	− 657	− 14		− 7.0	−0.12
Basic Metal ; Fabricated Metal Products	−3213	−1666		− 4.7	−11.3
Other manufacturing Industries	− 143	− 137		− 6.6	− 8.0

Source : NZ Department of Statistics.

an area of industry traditionally employing large numbers of unskilled females. In addition to this the other categories traditionally employing large numbers of women (mainly clerical) also report large absolute rises in the numbers of registered unemployed women. Taken together these observations indicate a serious reduction in job opportunity for both experienced and unskilled females in the traditionally female-employing sectors and also for school leavers. In general, if we take both male and female statistics into consideration, these suggest that the major occupational impact of unemploment has been on the female work force and the relatively unskilled sections of the labour-force taken as a whole. However, this conclusion, tentative as it is, must be qualified by noting the existence of net migration from New Zealand, particularly of skilled labour. It appears clear that lacking these migration trends the figures for unemployed skilled workers would be higher than they appear in Table 2.

Part 3: The Industrial Impact of Unemployment

Table 3 (a) summarises the absolute change in employment for males and females on a sectoral basis for manufacturing industry. Also listed are the percentage changes in total employment for either sex. In general the male/female employment trends move together although in aggregate the fall in female employment in manufacturing industry is slightly greater than for males (-6.6% as against -5%). In a trade dependent economy like New Zealand one might have predicted that those parts of manufacturing industry most dependent on imports would have shown the greatest change in employment over the cycle. In fact, whilst one might suggest this for manufacturing as a whole, it is difficult to see any support for this thesis *within* manufacturing.

By way of example, the wood and wood products sector shows a very heavy proportionate fall in employment in Table 3 (a) Yet this is almost certainly the least import-dependent sector of New Zealand manufacturing. It is certainly *one* of the least import-dependent. On the other hand Chemicals, Petroleum, Rubber and Plastics sector is heavily dependent on imports of raw material and semi-manufactures and shows a very small fluctuation in employment. There are several possible explanations of these two outcomes but an obvious one runs in terms of the income-elasticities of demand for the products of the two sectors. Given the willingness of governments to finance the import bill of the import-dependent sector it is to be presumed that such products as furniture and processed building materials are subject to greater fall in demand than, say, petroleum, as real incomes fall. For the manufacturing sector as a whole, total employment fell by some 5.5 per cent overall.

Table 3(b) lists the corresponding information for tertiary and construction sectors of the economy. Overall, the tertiary sector showed a small increase in both male and female employment. However, as table 3(b) shows this aggregate increase conceals some considerable inter-sectoral changes. A further consideration in analysing Table 3(b) is that the special work schemes referred to above have almost all their impact in the tertiary sector of the economy. This is especially so in white-collar jobs in Central and Local Governments and in services like sanitation employing unskilled

Table 3(b) Changes in Employment in Construction and Tertiary Industries

April 1976—April 1978

	M	F	% Change M	F
Tertiary				
Wholesale and Retail Trade	—1415	—1183	—1.9	— 2.7
Restaurants and Hotels	— 291	— 526	—4.0	— 5.4
Transport, Storage and Communication	— 489	++ 477	—0.7	+ 2.3
Financing, Insurance, Real State, and Business Services	+ 758	+1468	+2.6	+ 5.4
Public Administration and Defence	+1102	+1723	+2.9	+11.4
Sanitary and Similar Services : Social and Related Community Services	+2127	+2640	+4.4	+ 3.2
Recreational, Cultural, Personal and Household Services	+ 454	— 192	—1.4	— 1.7
Electricity, Gas and Water	+ 729	+ 91	+5.2	+ 6.2
Construction	—4531	+ 218	—7.1	+ 7.6

Source: NZ Department of Statistics.

labour in local government service. In the absence of these job-creation programmes it is certain that the tertiary sector would have shown a fall in employment. It is noticeable that both Public Administration and Sanitary and Other Community Services contribute quite heavily to offsetting falls in employment elsewhere in the tertiary sector. An important point is that job-creation schemes appear to have helped women and unskilled male labour more than skilled male labour. This seems particularly so if we scrutinise the quite large falls in employment recorded in construction, traditionally employing many highly-skilled male tradesmen. The two most obviously benefitted groups are of course those singled out as most disadvantaged in the occupational figures laid out in Table 2.

Part 4 : The Self-employed and the Crisis

It is in the nature of a small economy like New Zealand that industry would also tend to be small by world standards. It is partly in recognition of this that the Survey of Industry figures on which Tables 3 (a, b) are based also list the numbers of working proprietors in the labour force. In April 1978 these comprised about 8 percent of the surveyed work force. It has been a common-place of economic belief that it is this type of small scale service or manufacturing industry which is most vulnerable during an economic crisis. A common explanation is that such firms tend to be under capitalised and lack the reserves necessary to ride out an economic recession. In the light of this view the New Zealand figures are hard to explain since overall numbers of working proprietors actually rose slightly over the period in question. The one sector where there was a major fall was in construction which was also one of the sectors seriously affected by unemployment.

Conclusion

At the time of writing there seems little likelihood that the structural problems which underlie the current growth in unemployment will be rapidly overcome. The New Zealand balance of payments is still heavily in deficit although not so severely as a year previously. In the year to December 1978 the current account deficit was 392 million $ NZ against 603 million $ NZ for the year to December 1977. It is to be presumed that an increase in unemployment through 1979 can be expected.

References :

1. See "Services Industry Employment in New Zealand in the Post-War Period", Economic Affairs, Vol.XIV, No. 10, October 1969.

2. See "The New Zealand Economy in Crisis", Economic Affairs, Vol. 22, No. 3, March 1977.

3. New Zealand Official Year Book 1976, p. 204.

Motivation and Family Planning - Some Lessons from Other Countries

K. Nagaraj Prasad

The population problem has become a major issue in view of the fact that India's population not only exceeds six hundred millions but also because strong arm methods have not proved to be successful as the recent elections have clearly proved Today it has become delicate, difficult and ticklish; overlaid with emotions; controversial and complex. As Robert McNamara says, "If the problem of population is not dealt with reasonably, it will in fact explode; explode in suffering, explode in violence and explode in inhumanity". Rafael Salas who heads the U.N.F.P.A. rightly observes, "The population problem is all about poverty and survival".

Experts in India observe that 55,000 babies are born every day. Each year there are 21 million births and 8 million deaths resulting in a net addition of 13 million. Thus by the turn of the century we will be more than 900 million This tremendous growth is a mutiplier of other problems. Every year 1.26 lakhs more schools will be needed along with 4 lakhs more teachers, 1887 lakhs more metres of cloth, 125 million quintals of food grains and 40 lakhs more jobs. More over they will swell the ranks of potential parents in the generation to come. Thus the baby boom has acquired a built-in momentum and this is because patterns of high fertility cannot be easily reversed. Since strong arm methods are not advisable in a democracy like ours which has proved it, a different approach to some of the accepted methods of motivation might improve the prospects of Family Planning Programmes in future. This different perspective would demand changes not on the part of the potential client so much as in the delivery system itself. Mass media are much less likely to be effective in a rural population to convince the illiterate masses that they must change the traditional point of view towards children and family, or to induce a young couple to adopt contraceptives and limit the size of their family. In the rural setting and in the urban too, for that matter, more and more efforts in "selling" family planning should be conentrated on the more intimate, interpersonal form of communication that makes more use of local personnel and attempts to tailor the message to the specific audience addressed. This applies more so to the rural areas in India where all the efforts should be concentrated. It is at this juncture that a few suggestions can be made. Motivators are most effective when they are indigenous to the areas where they work, that their effectiveness attenuates over both time and distance because they exhaust their sphere of personal contacts. Unnecessary obstacles to the practice of family planning result from cultural insensitivities and communication failures on the part of the family planning programmers. For example, family planning professionals have adopted a language which often leads to misunderstanding, discomfort and suspicion. Abstractions in general and pictorial symbols and film making devices can be misleading and distracting to an audience unaccustomed to them. The medium does become the message, quite literally the entire message, obscuring totally its content. The message needs to be adequate and understandable but not necessarily technical or detailed. Some of the most effective communication with illeterate and semi-illiterate audiences can be done with the help of analogy. In the Dominican Republic, for example, simple dramatic gestures are used where a birth control pill is dropped into a glass of water and shown to dissolve in order to counter the common fear that pills will accumalate in the body; or where an I.U.D. like a new pair of shoes, perhaps uncomfortable at first, soon becomes a part of oneself. Teaching methods such as these are successful because they translate the basic facts of family planning into the vernacular of ordinary experience. They are developed easily and naturally by people who are intimately with the day to day lives of their audiences. But designers of family planning messages who are removed from the people are trying to reach them and those who operate at a high level of abstraction run the risk of falling into the trap of pre-testing a message for the field by showing it around the office. To reach those who are less highly motivated a programme must have a pleasant accessible service, an appropriate language and, to the extent possible, be culturally compatible and easily used.

Non-clinical or community based distribution of oral contraceptives has been initiated in some countries of Asia, Latin America and

Africa. In such programmes the motivator also assumes the role of a distributor or seller of contraceptives and thus receives instant and direct feedback on the effectiveness of his or her sales pitch. Prospective customers either purchase the supplies or they do not. One example of the community distribution design is the Profamilia Programme in Colombia. This programme is essentially centrifugal, that is, it takes family planning information and services to the immediate community and into the home instead of requiring the people to come to a distant centre or clinic to receive information and services. The women responsible for communication and motivation come from the same rural area and resemble as much as possible those whom they serve. They speak the same language, have the same customs and traditions and move through the community without being regarded as intruders or outsiders. The family planning methods offered are those that can be dispersed without medical supervision. Further, family planning is a part of a wider plan of assistance which is called integrated rural development and is not regarded as an end in itself.

In Indonesia a programme has begun recently for bringing planning services directly to rural villages. This has attained a high level. Of response of particular interest is the method of letting different provinces organise their services to fit local cultures. The B K K.B.N. has neither standardised nor dictated to the provinces. Each province was directed to introduce family planning at the village level but specifics of the approach were left to the province. Further it was decided to move increasingly and focus first on resupply with emphasis on making it easier for those who had already accepted it to obtain contraceptive supplies. As a result it was decided to link the village contraceptive resupply programme with a "Mother Clinic". In West Java family planning has been linked up with sewing, cooking nutrition courses, and other co-operative type activities. In central Java it has been linked up with a Chicken Co-operative. In East Java a registered use of a family planning group usually pays 35 Rupiah for a month's supply of contraceptives. Of the 35 Rupiah received from each person, 10 are kept for the costs of record keeping and the other 25 are added to a rotating lottery fund. The response to the techniques mentioned above has been encouraging which proves the fact that the crux of the entire problem is motivation.

Impact of Variations in Rainfall and Weather Conditions on Production of Crops in West Bengal

A. K. Giri, B. N. Banerjee,
A. K. Mukherjee and K. Sain*

I

It is well known that nature plays a vital role in agricultural production in India. Attempt has been made to find out the influence of rainfall on crop production. The primary objective of this exercise is to quantify the relationship, if any, between the almost uncontrollable agency of production, viz., rainfall, on the one hand, and area, production and yield of principal crops of West Bengal, viz., aus paddy, aman paddy and jute, on the other, with a view to finding out how much variations in rainfall in different periods of the year and inundation and/or drought are responsible for fluctuations in production in these respects in West Bengal. The study of impact of rainfall on production seems to be important from the fact that although there is a scope for increasing irrigation resources in the country, the area under irrigation is not expected to be more than 42 per cent of the total cropped area in India even in 2000 AD as against 22 per cent in 1970-71. So, judicious utilization of direct rainfall and irrigation water, singly and in combination, calls attention for increasing production*.

II

Data available in the report of the National Commission on Agriculture, 1976—Government of India, Agricultural Situation in India, Economic Survey, Government West Bengal, Reports of the Directorate of Economics and Statistics, Government of India and Indian Agriculture in Brief, Government of India, are mainly relied upon to estimate the relationships between rainfall and production, yield and area of the respective crops. The crops selected for studing the relationships are aus paddy, aman paddy and jute. The basis of selection of crops is that these three crops are still largely dependent on rainfall and the effect of rainfall on their yield, production and area is much more pronounced than on any other crops. Data on rainfall as well as data on yield, production and area for the last ten years from 1968 to 1977 have been considered for the purpose.

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* B. C. K. Viswa Vidyalaya, W. B.

*Source : National Commission on Agriculture, 1976, Rainfall & Cropping Patterns, Vol. XVI West Bengal, Government of India, Ministry of Agril. and Irrigation, New Delhi, p. 1.

The exercise covers West Bengal as a whole so far as area, production and yield, the preponderant variables, are concerned. The Gangetic plain of West Bengal, the major portion of the State, is taken into consideration with respect to rainfall figures considered. Rainfall data of the sub-Himalayan West Bengal region, a minor portion of the entire geographical area of West Bengal, are left out for exceptionally heavy rainfall in these areas and for difficulty of finding out suitable weight to be given to rainfall in this region. Because of limitation of data and because of possibility of some extent of error due to exclusion of Sub-Himalayan region, the result may seem to be a crude estimate of relationship. Nevertheless, the spirit of the objective sought is not totally hampered.

The crop season for aus paddy and jute normally begins in March and ends in September and that for aman paddy begins in jute and ends in December. Some operations in connection with those crops are spread beyond the specified periods, of course. But for simplification of analysis, these minor operations are left out. Pre-monsoon and South-West monsoon have been considered for aus paddy and jute. For aman paddy South-West-monsoon and post-monsoon have been considered. Pre-monsoon period consists of months from March to May, South-West-monsoon from June to September and post-monsoon period refers to months from October to December. Tabular presentation of pre-monsoon rainfall, South-west-monsoon and post-monsoon, on the one hand, and area, yield and production of crops, on the other, has been made. Then the correlation co-efficients are calculated separately for each crop and these are put to tests of significance.

III

Fluctuation in rainfall in the Gangetic valley of West Bengal during the decade 1968-1977 over the different periods had their impact upon area, production and yield. According to Meteorological

Department, Poona, +20% or more of normal indicates excess rainfall, +19% to −19% of normal indicates normal rainfall, —20% to —59% of normal indicates deficient rainfall, —60% to −99% of normal indicates scanty rainfall and —100% of normal indicates no rainfall. According to this criteria if rainfall data are related with data on production, yield and area of aus paddy, aman paddy and jute, it will be observed that in aman paddy, normal rainfall both during South-west-monsoon and post-monsoon is usually associated with higher yield in the corresponding years. Normal rainfall during South-West monsoon followed by deficient rainfall during post-monsoon period gives better yield than in a year in which normal South-West-monsoon followed by excess post-monsoon rainfall is observed. So, there is a problem of excess and deficient rainfall in aman paddy.

For jute normal rainfall during pre-monsoon period has been associated with larger area under jute in the corresponding years. Deficient and scanty rainfall leads to lesser area under jute. Regarding production of jute, it is observed that deficient and scanty rainfall during pre-monsoon period has resulted in comparatively lower production. Normal rainfall both during pre-monosoon and monsoon as well as excess rainfall during pre-monsoon and normal rainfall during monsoon are associated with higher production of jute. In fact, excess rainfall during pre-monsoon period cannot make any considerable harm to jute crop, because water absorption and leaching capacity of the soil during this season is great. Regarding aus paddy, no definite pattern of influence of rainfall on area, production and yield is observed.

Estimates of correlation co-efficient between rainfall on the one hand, and area production and yield, on the other, separately for aus paddy, jute and aman paddy are presented in Table I along with estimates of their statistical significance.

It appears from these estimates that rainfall bears very significantly on area, yield and production for all the three crops under consideration. This is in consonance with the limited extent of progress of irrigation facilities in the State of West Bengal, not more than 38 pre cent of gross cropped area of the State being irrigated so far. This importance of rainfall of course is to be taken for rainfall evenly spread throughout the year only, that is rainfall as and when necessary for furtherance of crop prospect. So far as correlation between rainfall and area is concerned, the highest correlation co-efficient is recorded for jute while the lowest 'r' value is obtained for aman.

This is consistent with the fact that while for aman the acreage is more or less static over time, the same for jute increases or decreases with more or less rainfall in the jute growing areas, particularly in the pre-monsoon period. The 'r' is higher for aman and aus paddy and lower for jute so far as relationship between rainfall and yield is concerned. When put to test these 'r' values prove to be highly significant.

IV

It is evident from the above how too much and too little rainfall plays an important role in crop production. Also their statistical correlations have been found out. The limitation of the result is that rainfall effect has not been isolated from the effect of other agencies of production, like planned development, use of chemical inputs, etc. Analysis of comparable data during the years beyond the era of planned development (1950-51 and backward) would have actually represented the real effect of weather and rainfall on crop production. However, the effect of excess and deficient rainfall is always very pertinent in agriculture which is often termed as occurrance of drought and flood. Although rain, storms and floods are more frequent and cause heavy damage to crops in the affected areas, their extent was rather limited and their effect on the overall food production in the country was relatively small. Moreover flood in one season often resulted in a good crop in the next season. Severe and widespread drought usually led to a sharp fall in food production for the country as a whole and gave rise to famine conditions. The adverse effect of a severe drought often tended to inhibit production in the next season also. It is obvious that a certain amount of fluctuation is unavoidable in agricultural production. It is equally important to plan for the minimisation of the instability of production along with the plan for increasing the rate of growth of agricultural production.

Various supplementary and complementary measures may be undertaken to minimise the fluctuation in production and to mitigate the problems arising out of this fluctuation. Shortfall in production may be mitigated partly by operation of buffer stock and partly by imports. These may be taken as short run measures. Despite high marginal productivity of irrigation in agriculture and despite the need for extending irrigation through minor irrigation works with a comparatively lower capital output ratio, specially in capital poor and labour surplus region like West Bengal, it appears worthwhile to divert a significant proportion of investible funds for construction of dams, embankments and reservoirs specially for those rivers and in those area which remain vulnerable to frequent devestating floods. All the principal rivers flowing through state could not as yet be controlled and harnessed through the River Valley Projects for obtaining tripple benefit of irrigation, hydro electricity and flood control. Their potentialities for irrigation neither could be utilised by river left irrigation system nor by any other alternative means. Construction of River Valley Projects may increase the net area sown under irrigation substantially. Notwithstanding a shift in the official policy away from major irrigation works to minor irrigation facilities such as through cluster tubewells, deep tubewells etc, the prepondering significance of River Valley projects still persists specially in those areas and districts which are susceptible to recurrent floods and the consequent damages to crops, property, animal and human lives. This is specially true for West Bengal.

The overall picture of agriculture in West Bengal with substantial dependence on rainfall for its success still now calls for introduction of remedial measures like crop and cattle insurance benefits, efficient meteorological forecasting, introduction and popularisation of flood and drought resistant varieties of crops suitable to different agro-climatic zones of West Bengal, and building of community shelters on uplands for flood victims. Increased investment in research and innovation is necessary to evolve new varieties of crops and new breeds of animals which are photoneutral and which may be indifferent to variations in weather conditions respectively. Measures are also necessary for developing suitable agro-based industries and for developing different types of processing industries based on farm products. All these and similar others are aimed at providing the farm operators and country dwellers with a second and even a third line of defence against natural calamities caused by fluctuations in rainfall and weather condition in the country.

V

In the background of the super importance of rainfall for success of agriculture in West Bengal, it is necessary that rain water is utilised with utmost care. Rainfall is a curse during flood only because of failure to control and utilise excess water. It can be saved and put to proper use by holding this surplus rain water through barriages and reservoirs in catchment areas of the rivers. Water percolating underground during the rains may be tapped through economic pump sets and other water lifting applicances for raising of the much needed crops in time. Supply of farm requisites besides water at proper time at reasonable rates to the farmers is indispensible to enable them to make good use of the normal and evenly rainfall in a normal year. The above study of the relationship between rainfall and area, production and yield also indicates urgency of careful utilisation of rain water at all times.

Table—I

Correlation Co-efficients between Rainfall and Area, Production and Yield of Aus Paddy, Jute and Aman Paddy in West Bengal for the decade : 1968—1977 with estimates of their statistical significance

		Correlation co-efficient (r)	t calculated value	t 0·01(8)	Highly significant (SS) or Significant (S) or Non-significant (NS)
	Rainfall+Area	0.9862	16.8458	3.355	SS
Aus	Rainfall+Yield	0.9883	18.3245	Do	SS
	Rainfall+Production	0.9886	18.5686	Do	SS
	Rainfall+Area	0.9874	17.6461	Do	SS
Jute	Rainfall+Yield	0.9789	13.5475	Do	SS
	Rainfall+Production	0.9764	12.7851	Do	SS
	Rainfall+Area	0.9855	16.4255	Do	SS
Aman	Rainfall+Yield	0.9879	18.0138	Do	SS
	Rainfall+Production	0.9650	10.4061	Do	SS

Effect of Urbanisation and Literacy on Non-Agricultural Occupations of Scheduled Castes and Scheduled Tribes in Andhra Pradesh

D. V. Ramana and D. V. L. N. V. Prasada Rao*

This paper is an attempt to study the independent effect of both urbanisation and literacy on non-agricultural occupations of scheduled castes and scheduled tribes in the state of Andhra Pradesh, which would be of great value for the policy makers to take necessary steps for their development.

Methodolgy

The 1971 census of population data of Andhra Pradesh have been taken for the purpose of analysis. The district-wise population of the state is divided into three categories namely (i) Scheduled Castes, (ii) Scheduled Tribes and (iii) Other Castes (Other Groups). In order to assess the effect of urbanisation and literacy on non-agricultural occupations of these three categories, partial regression coefficients are computed. Urbanisation and literacy are treated as independent variables and non-agricultural occupations as dependent variables. The formula used for the computation of partial regression coefficients is as follows :

$$X_1 = a + b_{12\cdot3} \cdot X_2 + b_{13\cdot2} \quad X_3$$

$$a = \bar{X}_1 - b_{12\cdot3} \cdot \bar{X}_2 - b_{13\cdot2} \quad \bar{X}_3$$

$$b_{12\cdot3} = \frac{S1}{S2} \quad \frac{r_{12} - r_{13} \cdot r_{23}}{1 - r_{23}^2}$$

$$b_{13\cdot2} = \frac{S1}{S3} \quad \frac{r_{13} - r_{12} \cdot r_{32}}{1 - r_{23}^2}$$

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* The authors are on the research staff of National Institute of Rural Development, Hyderabad-30.

Where X_1 = Non-agricultural occupations—dependent variable.
X_2 = Urbanisation—independent variable.
X_3 = Literacy—independent variable.
r_{ij} = Correlation coefficient between variables i and j
$b_{12\cdot 3}$ = Partial regression coefficient of X_2
$b_{13\cdot 2}$ = Partial regression coefficient of X_3
S_1. S_2. S_3 = Standard Deviations of X_1, X_2, X_3.

The Study

According to 1971 census, the total population of Andhra Pradesh is about 43.5 millions. Of this, Scheduled Castes, Scheduled Tribes and Other Groups account for 13.27 per cent. 3.81 per cent and 82.92 per cent respectively. The percentages of urban population, literates and workers engaged in non-agricultural occupations among these categories in the state are given in *Table-1.*

Table-1

Percentage of urban population, literacy and workers engaged in non-agricultural occupations among different categories in Andhra Pradesh

S. No.	Variables	Scheduled Castes	Scheduled Tribes	Other Groups	All Categories (Total AP)
1.	2.	3.	4.	5.	6.
1.	Percentage of non-agricultural workers to the total working population of respective categories in the state	11.72	10.88	30.58	26.61
2.	Percentage of urban population to the total population of respective categories in the state.	11.82	5.13	21.17	19.31
3.	Percentage of literacy to the total population of respective categories in the state	10.66	5.34	27.68	24.57

It is evident from Table-1 that the percentage of urban population, literacy and workers engaged in non-agricultural occupations among scheduled castes and scheduled tribes is lower than in other groups. This shows that the highest percentage of scheduled castes and scheduled tribes is engaged in agricultural occupations alone.

The mean, standard deviation and coefficient of variation calculated for dependent and independent variables are presented in Table-2

Table-2

Mean, Standard Deviation and Coefficient Variation of Dependent and Independent Variables

S. No.	Variables	Scheduled Castes	Scheduled Tribes	Other Groups	All Categories (Total AP)
1.	2.	3.	4.	5.	6.
1.	*Non-Agrl. Workers*				
	Mean	12.07	17.30	30.29	26.19
	Standard Deviation	7.27	18.08	9.18	8.64
	Coefficient of Variation	60.2	104.5	30.3	33.0
2.	Urbanisation				
	Mean	11.54	9.95	19.82	17.82
	Standard Deviation	9.53	16.13	12.25	11.95
	Coefficient of Variation	82.6	162.1	61.8	57.1
3.	Literacy				
	Mean	10.36	6.61	26.44	23.38
	Standard Deviation	5.36	4.08	7.48	7.25
	Coefficient of Variation	51.7	61.7	28 3	31.0

The correlation coefficients between three selected variables are significant among all the three categories. The correlation coefficients are presented in Table-3.

Table-3

Correlation Coefficients between Selected Variables

Correlation Between	Scheduled Castes	Scheduled Tribes	Other Groups	All Categories (Total of AP)
1. Non-agricultural workers : Urbanisation	0.935**	0.770**	0.933**	0.944**
2. Urbanisation : Literacy	0.523**	0.803**	0.704**	0.738**
3. Literacy : Non-agricultural workers	0.458*	0.815**	0.640**	0.652**

** Significant at 0.01 level,

* Significant at 0.05 level

It is evident from Table-3 that urbanisation and literacy definitely bring change in the occupational structure of scheduled castes and scheduled tribes. In order to know the individual effect of independent variables on dependent variables, partial regression coefficients and multiple correlation coefficients are computed and are presented in Table-4

Table 4

Partial Regression Coefficients and Multiple Correlation

S. No.	Category	$b_{12\cdot3}$	$b_{13\cdot2}$	R
1.	Scheduled Castes	+0.730	−0.058	0.916†
2.	Scheduled Tribes	+0.366	+2.460	0.837*
3.	Other Groups	+0.717	−0.041	0.933†
4.	All categories (Total A.P.)	+0.736	−0.118	0.947†

where $b_{12\cdot3}$ and $b_{13\cdot2}$ are partial regression coefficients of X_2 and X_3, R - Multiple Correlation between dependent and independent variables.

† Significant at 0.01 level.

* Significant at 0.05.

The multiple correlation coefficients between independent variables and dependent variables among all the three categories are significant at 0.01 and 0.05 levels. However, if we observe the individual effect of urbanisation and literacy on non-agricultural occupation, the effect of urbanisation is positive and the effect is very high among scheduled castes and other groups, compared to scheduled tribes. The effect of literacy among scheduled castes and other groups is negative while it is positive among scheduled tribes. It has been observed that the effect of literacy is higher than the effect of urbanisation among scheduled tribes.

However, if we take the individual effect of both urbanisation and literacy on non-agricultural occupations, it can be observed that the effect of urbanisation is positive, while the effect of literacy among scheduled castes and other groups is negative, The effect of literacy is positive among scheduled tribes which is higher than the effect of urbanisation.

Conlusion

It has been observed that the multiple correlation between independent variables—urbanisation and literacy—and non-agricultural occupations among scheduled castes, scheduled tribes and other groups is significant. However, if we observe the individual effect of each independent variable on dependent variable, in all the three categories, namely scheduled castes, scheduled tribes and other groups, the effect of urbanisation on non-agricultural occupations is positive. Among scheduled castes and other groups the effect of literacy is negative while among scheduled tribes the effect of literacy is positive and the effect is greater than that of urbanisation on non-agricultural occupations among this group.

References

1. Census of India, 1971, 'Andhra Pradesh, Series-3, Part II-A, General Population Tables.'
2. Census of India, 1971, 'India Series-I, Part I of 1975, Scheduled Castes and Scheduled Tribes', Registrar General and Census Commissioner, India.
3. Ramana, D. V. and Prasada Rao—'Scheduled Caste and Scheduled Tribe Population in Andhra Pradesh : A Demograhic Profile, Community Development and Panchayati Raj Digest, Vol.8, No.2 October 1976.

A major factor behind the disturbances in the exchange markets in recent years has been the persistence of a highly unbalanced distribution of external current account surpluses and deficits among the major industrial countries. In 1977, the U.S. current account had swung into large deficit, mirrored in part by a substantial rise in the surplus for Japan ; at the same time surpluses persisted in the German and Swiss external accounts. This distribution differed from that which could be sustained by capital flows. Accordingly, the dollar depreciated along with appreciations of the yen, the deutsche mark, and the Swiss franc. In large part, these external developments had their origin in different rates of expansion in real domestic demand among the major industrial countries.

Problems of Potato Growers in Farrukhabad District, U.P.

D. K. Singh*

The present paper deals with following main objectives:

(i) To study the cost and return of per quintal and per acre of potato and analyse the marketing margin and price behaviour;

(ii) To study the problems faced in the marketing of potato and suggest measures to overcome there difficulties.

Farrukhabad is a leading district producing potato. The climate and soil are very suitable for better growth of potato plants. Therefore, the cultivation of potato has been practised for generations. The per capita availability of land is very low, so farmers take at least three crops in a year with extensive cultivation. The potato is generally sown in the month of November and harvested up to February. The growers do not vacate the land after harvesting potato for wheat would be sown immediately. The yearly cropping sequence of this district is the maize, potato-wheat or maize-potato-potato. It is very interesting to note that area under potato does not fluctuate very much. The area, production and productivity of potato during last four to five years have been given above. It is interesting to note that despite the fluctuation in area the production of potato has increased tremendously because of increase in productivity. The production of potato

Area and Production of Potato in Farrukhabad

Years	Area (acres)	Production (tonne)	Productivity (tonnes)	Index Area	Index Production	Growth Rate Area	Growth Rate Production
1974-75	28049	298158	10.62	100.00	100.00		
1975-76	26507	355671	13.41	94.50	119.28	—0.03*	+15.89*
9976-77	25120	268800	10.70	89.55	90.15		
1977-78	27808	458340	16.48	99.14	153.72		

* The base year for it was 1973-74.

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* Agro-Economic Research Centre, University of Allahabad, Allahabad.

of Farrukhabad district has increased at the rate of 15 per cent per annum during the period of 1973-74 to 1977-78. The potato growers are doing their best to maximize production of potato with the use of balanced quantity of essential inputs and application of new technology but they are deprived of actual benefits. The price of potato prevailing in the current year was totally against the interest of potato growers. In the month of February, the price per quintal of potato ranged from Rs. 20 to 25 which was hardly sufficient enough to compensate the digging charges.

About ten to twelve per cent of area under potato could not be digged because of low prices. The condition of potato growers were so critical that some of them had taken the steps of committing even sucide. Seeing the situation, a team of research workers of Agro-Economic Research Centre visited this district in the month of February to find out the cost and benefit of potato and for suggesting reasonable price of potato. Thirty potato growers were interviewed to have the depth idea about their problems.

Cost and Return

The farmers of Farrukhabad generally grow four varieties of potato, namely, military, Nos. 1645, 208 and C-140. The military and No. C-140 were grown in a larger area as compared to Nos. 208 and C-140 because of short duration and early maturation of crops. So military and No. 1645 are very common among the farmers. The main cost component in the cultivation of potato was seed followed by fertilizer.

The value of seed of one quintal was Rs. 125 at the time of sowing which was five times more than the price of one quintal of potato prevailing in the market in February. It requires more capital. The per acre cost of production of different varieties of potato comes to about Rs. 2711.25, 2182.35, 2247.80 and 1478.45 in military, Nos. 1645, 208 and C-140 respectively. The charge for seed and fertilizer jointly accounts for 70 per cent of total paid out cost in military variety of potato. On an average, the potato growers have to spend Rs. 750 for purchasing seed for sowing in one acre of land. The farmers bear much risk to invest huge amount of capital because production depends more upon weather and climatic conditions. The average yield of different varieties varied in the range of 65.95 to 40.30 quintal per acre. Now the question arises whether the 50 quintals are providing any marginal profit to growers or not. Study reveals that total value of per acre military variety of potato was the highest i.e. Rs. 2980.50 followed by Rs. 1806.00 of No. 1645 variety due to early arrival in the market. The total value of Nos. 208 and C-140 varieties was Rs. 1310 60 and Rs. 1105.70 respectively on account of low price. The price of military was Rs. 70 in December while the price of C-140 and others were Rs. 20 to Rs. 25 per quintal in the month of February. The per quintal cost of production of military was highest, Rs. 47.07., in comparison to other varieties due to higher expenses in seed and fertilizer. The net return of different varieties. i.e. military, Nos. 1645, 208, and C-140 was Rs. 269.25, 376.35, 937.20 and 372.75 respectively.

Though it shows the profit but is too low than the return from other related crops. The analysis of per quintal cost of cultivation of different varieties of potato shows that cost was higher than income in all varieties. The growers received Rs. 20 after selling a quintal of potato in February while the working cost plus marketing cost was Rs. 42.37 for No.C-140. None of four varieties of potato was profitable to the farmers. This was mainly because of the prevailing low prices in the market. Under this situation, it becomes a terrific problem for how long the farmers will be able to bear this sort of loss. The price of potato was fluctuating very much even in a week depending upon the supply and demand of market. Since the supply of potato was in abundance and demand was checked due to non-availability of cheaper transport the price was going down day by day, For example, the price of potato was Rs. 45 per quintal while it was less than half i.e. Rs. 20 in February due to the arrival of a huge quantity of potato in the market. Because of poor storing capacity to preserve for a long time, the total marketed surplus is put on the market and consequently the supply is very much more than the demand. So the cultivators are suffering badly. This is not the phenomena for this year only but may continue for long if no timely action is taken.

In almost all the markets of Farrukhabad it was found that potato growers who had brought their produce for sale in primary and secondary markets faced a great difficulty in getting proper price of their produce due to malpractices adopted by traders and the domidance of middlemen. The cultivators have to pay a number of marketing costs if the produce comes to the market for selling. Transport is one of the most important costs of marketing. Absence of link roads makes the growers face many difficulties in bringing the produce to the market. The per quintal marketing cost paid by farmers up to Farrukhabad was Rs. 5.45 which is ¼th of per quintal price received by them. In spite of this, the wholesale dealers deduct the weight charges, charity amount and commission from the total amount and pay the rest to producers. Besides this the potato growers have to bear the transport and other expenses of about Rs. 5.45 per quintal. Therefore, a grower spends Rs. 50.00 up to the disposal of potato but he receives only Rs. 20. Under the circumstances, a farmer loses net Rs. 30 per quintal in the cultivation of potato. The opinion about such a low price this year as expressed by the potato growers is given in the following paragraphs :

1. The existing marketing facility is not satisfactory ; generally farmers have to transport their produce in the market and are bound to sell at price prevailing in the market at that time, because of non-availability of railway wagons, high transport charges of truck and less capacity of cold-storage in the district. Therefore, farmers were not in a position to send their potato to different markets of other States. Because of perishable nature of the commodity, there are two alternatives i.e. either to sell or to keep in cold-storage. So farmers are bound to sell the potato bearing much loss which is not compensating even a single cost of its production.

2. The situation of cold-storage was very critical. The maximum corruption and mismanagement are prevailing in the cold-storages. Generally cold-storages are under the control of big magnets and on account of this, they provide maximum help to big landlords and businessmen. The small and poor cultivators are not able to keep the potato even for seed purposes. After getting disappointment with cold-storage, they had to sell their produce at whatever price prevailing in market because it could not be retained for a longer time and also for requirement of money for repayment of loan and to meet the household expenditure. The poor potato growers used to borrow from dealers for investing in potato crop so they are forced to sell the produce to them even at a price lower than market price.

3. The well organised and strong associations of non-potato cultivators are governing the whole potato market and the prices are manipulated according to their will.

On account of over dominance of potato dealers on potato market the growers find it difficult to compete in this field. Only the government can safeguard the interest of potato growers. Government announced the procurement price of potato at Rs. 45 beginning from this year. But unfortunately no Government agency came to the market for purchasing the potato at that price. In Farrukhabad the production of potato is much more than in the last year's production but availability of railway wagons for exporting to other states was poor. In the month of February, the availability of wagons was only forty while the requirement was 120 wagons per day. Due to the shortage of wagons the potato could not be sent to different states like Assam and West Bengal resulting in glut in the market and ultimately the result of this had to be borne by growers. The farmers told us the following remedies for better price of potato.

1. The supply of wagon should be at least 140 per day specially during peak period of January and February for Farrukhabad district.
ii. Dominance of traders should be pushed away from the market.
iii. Total management of cold-storage should be controlled by the government with the assistance of potato growers.
iv. Equal opportunity should be given to all classes of growers to keep potato at least for seed.
v. Marketing of potato should also be governed by rules of regulated market.
vi. Purchasing centres of Government should be opened in different markets.
vii. Loan should be given to potato growers for the cultivation of potato and side by side efforts should be made that even not a single cultivator takes loan from money-lenders.
viii. It has been estimated by Agro-Economic Research Centre, University of Allahabad, that at present producers' share in consumer rupee is hardly 60 per cent. It can be increased to 80 per cent if the price is about Rs. 50 per quintal.

Seeing the cost of cultivation and marketing cost, a farmer had to invest Rs. 50 per quintal up to market level, so every effort should be made that price should not be less than the Rs. 56 per quintal.

Bayesian Econometrics : Bayesian Analysis of Simultaneous Equations Econometric Models

Ranen Ghosh[*]

[The article is a sequel of my earlier paper, 'Bayesian Econometrics', published in Economic Affairs, June-July, 1978, Vol. 23, No. 6-7. As the sub-title of the present paper indicates, I discuss the nature and prospects of Bayesian Analysis as applied to the simultaneous Equations Models for an economy. As usual, the discussion is made a non-technical and easy going, so that unassuming readers can grasp the essence of such difficult and abstruse subject as Bayesian Econometrics.]

The econometric analysis of simultaneous equations models is an advanced work in present-day econometrics. A few sophisticated tools in traditional econometrics, such as Maximum Likelihood, Two-stage and Three-stage Least Squares, Least Squares, Generalised Least Squares, Instrumental Variable Method, and others are being currently used for this purpose. Alternative to these tools, which the Bayesians call ad hockeries, is now the Bayesian analysis which is universally applicable. So, Bayesian econometrics has broken new grounds in this area.

Write the following for a simultaneous equations model :

$$(1) \quad By+Ax=u$$

where y is a G-dimensional vector of endogenous variables, x is a K-dimensional vector of exogenous variables, u is a G-dimensional vector of stochastic terms. B and A are matrices of structural parameters. If B is non-singular, then (1) can be expressed as :

$$\begin{aligned}(2) \quad y &= -B^{-1}Ax+B^{-1}u \\ &= Hx+V, \text{ with obvious substitution,}\end{aligned}$$

which is known as reduced form equation.

An econometrician does not have exact knowledge of structural parameters. More often he has only vague information. He will not have absolutely certain information about some of these parameters. Nor will he have absolutely blank information about the rest of these parameters. So, it is never a case of knowing all or nothing at all. In such cases, Bayesian approach is more suitable, with prior probability distribution over B and A together with Σ (i.e.. covariance matrix of u) than the classical approach which assumes exact knowledge about some parameters and absolutely no knowledge about other parameters.

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[*] Senior Research Fellow, I. S. S. E. R., University of Ghana, Legon.

In Bayesian analysis of such a model, the essential steps are (1) to specify joint probability distribution on the parameters and observed variables, and (2) to determine the conditional probability distribution of the parameters given the sample observations. The first step is by far the more difficult step where subjective belief is to be included as fully as possible; at the same time the distribution is to be made computationally feasible. The second step does not involve any conceptual difficulty but is mechanically mathematical. In the first step, the conditional (or posterior) distribution becomes the basis of interference about the parameters.

In the analysis of simultaneous equations model, the problem of identification of parameters is to be tackled with care. The basic concept of identification is discussed here. For more advanced treatment of the subject, serious readers have to refer to my research paper (5b). Consider into cases where observations on Y vector are generated by two distributions: $p_1(Y/a)$ and $p_2(Y/b)$. If $p_1(Y/a)=p_2(Y/b)$, the distribution of Y is not identified. Similarly, it can be noted that the vectors of parameters a and b are not identified.

On the other hand, if r parameters a, a_r, $(r=1, 2, \cdots\cdots r)$, are isolated so that $p(Y/a_r) \neq p(Y/b)$, then r parameters a are identified. This is the usual procedure in sampling theory for identification of parameters, where exact restrictions are imposed on parameters.

In Bayesian econometrics, prior knowledge need not be introduced as exact restrictions, and can be introduced more flexibly. So, it is imperative that the concept of identification should be broadened to cover the case for Bayesian analysis.

Consider two models : the first model m_1, with parameter vector a_1 and with prior pdf $p(a_1/m_1)$, and the second model m_2, with parameter vector a_2 and with prior pdf $p(a_2/m_2)$. In both these models, together with their associated prior information, give rise to the exact marginal pdf for a set of observations, these two models are not distinguishable, i.e., are not identifiable. More of the identification problem in Bayesian econometrics will be critically examined in due course.

In Bayesian econometrics, the analysis of a simultaneous equations model is tackled from two analysis : (1) General Single Equation Approach, and (2) Full Information Approach. In the first Approach a single equation out of many equations included in the model is taken as of interest. Accordingly, appropriate methods are developed to tackle the problem. These methods give statistically inexact results but provide computationally feasible model. Still, the number of endogenous variables that such a model can handle with computational feasibility is to be small.

(1) General Single-Equation Approach

Consider the linear model :

$$(3) \quad y = Zd + u$$

where y is an n-dimensional (column) vector of observations on a random variable, Z is an $n \times m$ matrix of observations on m explanatory variables, and u is an n-dimensional vector of unobserved errors ; d, a m-dimensional vector, is unknown and is to be estimated from the sample. It is also assumed that Z is partitioned as $[Z_1, Z_2]$, where Z_1 is the $n \times g$ matrix consisting of those columns of Z which are random and Z_2 is the $n \times k$ matrix consisting of the remaining non-random columns. Partitioning d into corresponding subvectors, (3) can be rewritten as

$$(4) \quad y = Z_1 d_1 + Z_2 d_2 + u$$

Bayesian inference on d_1 and d_2 involves the calculation of a conditional probability distribution on the parameters given the observations from sample. This distribution can be derived once the joint probability distribution of the parameters and the data are specified. Using Equation (4), this joint distribution is determined by specifying the joint distribution of u, Z_1 and d. The error term u consists of unmeasured economic variables that are thought to be correlated with variables in Z_1. Thus the econometrician must have in mind some economic mechanism which gives rise to this correlation. Two possible prospects are to be explored : (1) Suppose that the econometrician has some prior information about that correlation and this information is not modified by available data ; (2) alternatively, assume that the economic mechanism relating u and Z_1 also involves other observed economic variables and can be described by a 'reduced form' equation.

Regard the former case as a special case of the latter, and concentrate on the latter for analysis.

Write :

$$(5)\quad Z_1 = XD' + V,$$

where X is the $n \times K$ matrix of all the important exogenous variables that influence Z_1, D′ is the $g \times Z$ matrix of 'reduced form' coefficients and V is the matrix of 'reduced form' errors.

The specifications of the above model and its further analysis from Bayesian point of view have been discussed elsewhere, see Ghosh (5b). These are too technical for the present paper.

Recently, Dreze (3) develops a model, a Bayesian Limited Information Approach Model, which is statistically less efficient but computationally more tractable. Dreze's model is as follows :

$$(6)\quad By' + AZ' = u'$$

where y is an m-dimensional vector of endogenous variables, Z is an n-dimensional vector of exogenous variables, B is an $m \times m$ non-singular matrix of coefficients, with $b_{ii}=1$, $i=1, 2, \cdots m$, A is an $m \times n$ matrix of coefficients. and u is an m-dimensional vector of unobserved disturbances. His approach here is : defined an appropriate non-informative prior density on all the parameters of the model (b), and derive the marginal density of the parameters appearing in a single equation of interest. The marginal density is then combined with additional information to obtain a posterior density on the same parameters.

Dreze observed that, from a Bayesian viewpoint, limited information analysis should proceed from a prior density that is non-informative on all parameters of all models, except those in a single equation. The prior for the parameters of this single equation is to be informative. So, Dreze has advanced a mix of non-informative and informative priors in a Bayesian limited information analysis. This analysis is carried out under 'limited information' because no prior information (other than a list of endogenous and exogenous variables) is introduced on the parameters of the remaining equations of the system. These parameters are integrated out analytically, thus getting rid of 'nuisance' parameters.

(2) Full Information Approach

In the Full Information Approach, it is assumed that information on a complete structural system is available. Then the problem is to find out equally rich model which can represent this full information. The question to be asked now is : Can a plausible family of distribution functions be found so that the econometrician's information about B, A and Σ (i.e., covariance matrix of u), for model (1) can be properly represented ? At the present stage of theoretical Bayesian approach there is no answer to this question. Only restrictive priors have so far been used in works done by a few Bayesians in this field. Such models which have used natural conjugates or extended natural conjugates as priors have to be very small in size so that they produce computationally feasible results.

The general comments being made as above, the Bayesian full information analysis of simultaneous equations models will now be examined in more details.

If information on a complete structural system is available, then the problem is to find out equally rich model which can represent this full information. Start with the following model :

$$(7.1)\quad By_t+Ax_t=u_t$$

where y_t is a G-dimensional column vector of endogenous variables, x_t is a K-dimensional column vector of exogenous variables, and u_t is a G-dimensional column vector of error terms. B and A are parmeter matrices of dimensions $G \times G$ and $G \times K$ respectively. The reduced form system is, if B is non-singular,

$$(7.2)\quad y_t=-B^{-1}Ax_t+B^{-1}u_t$$

$$(7.2)\quad =\pi x_t+v_t\,,\qquad (t=1,2\cdots\cdots n)$$

where π is, by definition, the $G \times K$ matrix $-B^{-1}A$. In (7.2), y is a linear function of u_t. Therefore, the elements of y_t are in general correlated with elements of u_t. Here, no distinction is made between one equation of interest and the others in (7.1) above. The task set is to learn about all the elements of B and A. That is, the problem for the econometricians is to make inference about the entire system of relations on the basis of a sample. Write (7.1) as follows :

$$(7.3)\quad BY'+AX'=U'$$

where Y is the $n \times G$ matrix of observations on the endogenous variables, X is the $n \times K$ matrix of observations on the exogenous variables, and U is the $n \times G$ error matrix.

It is specified that the distribution on B, A and Σ^* (the mixing parameter) is informative and, in general, does not factor into uniform prior on (B, A) and an independent distribution on Σ^*. This is the crucial differerence between the full-information approach and the limited-information approach. The implication of the assumption as stated above for model (7.3) is that definite information about the whole structure is available.

But what is a plausible family of distribution functions to describe the econometrician's information about B, A and Σ^* ? Unfortunately, there is no answer to this question at the present stage of theoretical development in Bayesian Econometrics. Distributions which combine conveniently with normal distribution already assumed have restrictive properties. In particular, they require that the $K \times K$ matrix of all the variances of the elements of A have rank one. This is an unacceptable restriction on subjective beliefs. Less restrictive prior distributions, however, do not combine easily with the normal distribution and hence give rise to difficult computions.

Works so far done adopted restrictive priors - natural conjugate or extended natural conjugate—in the models [for example, Morales 7] for simultaneous equations. Even so, these models yield computationally feasible results only when they are very small. For small models, numerical integration techniques are available. Current methods cannot analyse large models without putting severe restrictions on the structural information (prior) that the econometrician has on such models.

In Full Information Approach, it is assumed that substantial information about B, A and structural errors are available. How far is this assumption met in reality ? In practice, it is doubtful if considerable structural information is available. In practice, the econometrician may have better knowledge about the matrix Σ as used in the General Single-Equation Approach, [see above] than about the matrices B, A and Σ^*. Therefore, limited-information approach may be more fruitful for econometric model-building than the full information approach.

With very few exceptions Bayesian methods in econometrics have been developed along two lines only, where computation is feasible : (1) reliance on non-informative priors (much of Zellner's works use it) ; or, (2) reliance on natural conjugate priors as used by Raiffa and Schlaifer. Drize suggested an 'extended natural conjugate prior obtained by extending the parameter set in the natural conjugate family. This developed into a Bayesian full information analysis of simultaneous equations model. Non-feasibility of such a full information model from the point of view of computation has been pointed out above.

Maddala (6) has made a few important observations on the workings of Bayesian econometrics, specially simultaneous equations models. He observes that a non-informative prior, weak prior, may give rise to sharp posterior distribution even in an under identified model. Although 2SLS method faces similar problem, proper tests for under identification are available in traditional econometrics. In the context of Bayesian econometrics, Drize suggests the following in tackling this problem : Compute prior and posterior probabilities of rank identification. This, however, involves more detailed specification and more complicated calculations than in the classical procedure, because, the exact nature of under identification is to be specified and mixed priors are to be used.

Maddala suggests that a careful investigation into the formulation of priors that the current Bayesians are engaged in should be instituted. The prior for Σ, the covariance matrix, is particularly watched for. A consensus is developing among Bayesians that there is no unique mathematical expression of 'non-informativeness' or 'diffuseness'. The prior used by Drize is based on a certain type of invariance argument involving reduced form and structural form that is not the same type of invariance used by Jeffreys to justify his prior. Zellner has used the following prior for the covariance matrix Σ,

$$p(\Sigma)\, d\Sigma \propto /\Sigma/^{-(m+1)/2}\, d\Sigma$$

in a simultaneous equations model, presumably as an analogy to the multivariate regression model. Maddala observes as follows : 'It is not, however, clear whether the analogy can be carried through in all cases for a simultaneous equations model'. The simultaneous equations model can be regarded as a multivariate regression model only for a given value of B, the matrix of coefficients of the endogenous variables. The importance of the assumptions about the covariance matrix spells out major difference between the simultaneous equations model and the multivariate regression model. In the latter case this affects only the efficiency of the estimates. In the former, this might lead to identification of the parameters that are otherwise not identified.

References :

1. Box, G. E. P. and G. C. Tiao : Bayesian Inference in Statistical Analysis, Addision-Wesley Publishing Co., London, 1973.

2. Chetty, V. K. 'Bayesian Analysis of Haavelmo's Models', Econometrica, Vol. 36, 1968, pages 582-602.

3. Drize, J. H.: 'Bayesian Limited Information Analysis of Simultaneous Equations Models', Econometrica, Sept., 1976, Vol. 44, pages 1045.

4. Fienberg, Stephen E. and A. Zellner (Ed.): Studies in Bayesian Econometrics and Statistics.

5. Ghosh, Ranen : (a) 'Bayesian Econometrics', Economic Affairs, June-July, 1978, Vol. 23, No. 6-7, pages 253-259.

(b) 'Bayesian Econometrics : An Investigation into its Nature and Prospects for Econometric Model-Building and Analysis, with special reference to Simultaneous Equations Models', a Sabbatical Research Project undertaken in 1977-78, completed in September, 1978. I. S. S. E. R., Univ. of Ghana, Legon.

(c) Studies in Applied Econometrics (forthcoming), Chapter 10 : 'Bayesian Econometrics.

6. Maddala, G. S : 'Weak Priors and Sharp Posteriors in Simultaneous Equations Models', Econometrica, March, 1976, Vol. 44 pages 345.

7. Morales, J : Bayesian Full Information Structural Analysis, Berlin : Springer-Verlog.

8. Phillips, L. D : Bayesian Statistics for Social Scientists, Thomas Nelson and Sons Ltd. London, 1973.

9. Rothenberg, Thomas J : Efficient Estimation with a Priori Information, New Haven, London, Yale University Press, 1973.

Demographic Factors Affecting the Nature of Work Participation in Economic Activities in an Urbanised Region—an Econometric Model

P. K. Chugan*

The main purpose of this study is to find out the relationship between the work participation in economic activities on the one hand and the population density, sex ratio and level of literacy on the other in a given urbanized region. It aims at finding out whether the population density, sex ratio and literary rate at a particular distance from the centre affect the nature of the work participation in economic activities or not. For this purpose general linear regression equation has been worked out to find out the relations. In other words, the following are the two principal objects of this paper.

1. To find out the numerical value of the parameters or coefficients of the equation :

$$Y=\beta_0+\beta_1x_1+\beta_2x_2+\beta_3x_3+\beta_4x_4+\xi$$

where, x_1=population density

x_2=sex ratio

x_3=level of literacy

x_4=dummy variables

Y=ratio of non-primary workers to primary workers in percentage.

2. To apply the test of significance to examine whether the estimated coefficients are significant or not.

Moreover, the transport network as yet another variable has also been included in the study and the results are worked out in three stages. In the first stage, known as the aggregate analysis, the model is worked out without considering the transportation network separately. In the second stage, the transportation network has been included into the study and the whole region is divided into two cadres. One, which has the direct influence on transportation, known as 'within corridor analysis' and another which does not have direct access to these transportation facilities known as 'outside corridor analysis.' These corriders are constructed by keeping the distance of 2 miles towards both sides of each railway line and national highway, which divide the whole region into within corridor and outside corridor regions. Hence this paper provides a three-way classification and consequently three models, one for each cadre.

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* Jawaharlal Nehru University, New Delhi.

Since this model is based on the centrifugal approach i.e., there is a vanishing effect of the metropolis as the distance from the central pivot increases, although this does not hold true for a longer distance. In this study the maximun distance worked out is 20 miles which, of course, is not arbitrary, but based on the previous study worked out for the region under study[1]. This 20 miles radius region is divided into 18 circles, keeping a constant distance of one mile between each two circles, except in the case of the first circle, which has a radius of three miles and known as the centre of the city. All the villages located between any two circles are the source of the data of the observations[2]. The first circle, i.e., the heart of the city is not included in the observations because it may be resulted in an higher standard error due to the very high values of the variables under consideration.

Source of Data

For the purpose of this study the data given by the Census of India, 1971 have been widely utilized. The data relating to nine economic categories—area, population by sex, and the literate and educated persons, etc. are given in District Census Hand Books of Gujarat State at the village level. By using these data, the variables, viz. ratio of non-primary workers to primary workers, population density, sex ratio and literacy level are defined as follows :—

(1) Ratio of non-primary workers to primary workers :

In the Census of India, 1971 the total workers are classified into nine occupational categories as given below :

[1] The pilot study within a radius of 100 miles is worked out. This reveals that the influence of the Ahmedabad metropolis does not radiate beyond 20 miles from the pivot of metropolitan region. The study is entitled as "Regional Profile of Ahmedabad Rural Urban Hinterland" and has been submitted as one of the research papers for the award of M. P. S. degree at Jawaharlal Nehru University, New Delhi in 1976.

[2] See definition of variables (source of data).

i. Cultivators
ii. Agricultural labourers
iii. Livestock, forestry, hunting and plantation, orchards and allied services.
iv. Mining and quarrying
v. Manufacturing, processing and repairs including (a) household industry and (b) other than household industry.
vi. Construction
vii. Trade and commerce
viii. Transport, storage and communication.
ix. Other services.

Out of these nine occupational categories, first four are kept in one sector called the primary sector, the next two are known as secondary sector and the rest three come in the tertiary sector. Moreover, by adding secondary and tertiary sectors we can further make one more sector called non-primary sector. Now, if we take the ratio of non-primary to primary workers in percentage, it is one variable which has been used in this study and represents all the economic activites.

Mathematically :

(Yi) Ratio of non-primary workers to primary workers in percentages$=\frac{\text{Non-primary workers}}{\text{Primary workers}} \times 100$

$$Yi = \frac{\sum_{j=1}^{-} NPWij}{\sum_{j=1}^{n} PWij} = 100 \quad i = 4, 5, \ldots\ldots, 20$$

where, NPW is non-primary workers

PW is primary workers

i is the number of circle

j is the number of villages located between the circle i and i$-$1.

(2) Population density

Population density is obtained by dividing the total population by the area

In mathematical notation :

$$(X_{1i})\ \text{Population density}=\frac{\sum_{j=1}^{n} Pij}{\sum_{j=1}^{n} Aij}\quad i=4,\ 5,\ldots\ldots,\ 20$$

where, P is the population

A is the area in kilometres.

(3) Sex Ratio

It is defined as a number of females per thousand males computed for each circle, i.e.,

$$(X_{2i})\ \text{Sex ratio}=\frac{\sum_{j=1}^{n} Fij}{\sum_{j=1}^{n} Mij}\times 1000\quad i=4,\cdots,\ 20$$

where, F stands for female population

M stands for male population

i and j have the same interpretation as mentioned above.

(4) Literacy level

The literacy level is defined as percentage ratio of literate and educated persons to total population in each circle, i.e.,

$$(X_{3i})\ \text{Literacy level}=\frac{\sum_{j=1}^{n} LEPij}{\sum_{j=1}^{n} TPij}\times 100\quad i=4,\ldots 20.$$

where, LEP stands for literate and educated population

TP stands for population

i and j have the same meaning.

(5) Dummy variable

Dummy variable is a binary variable which has a value equal to 1 if there is the presence of other towns in any circle, otherwise zero. This has been done since in some circles there are other urban centres (towns) having their own effect upon the nearby villages.

Hypothesis

1. If all the estimated β coefficients are insignificant the construction of this model is not worth while; and the distance from the city and other factors, viz. level of industrialisation and economic infrastructure affect the dependent (Y) variable.

2. If the estimated β coefficients are significant than other explanatory variables too determine the endogenous variable (Y) along with the distance from the centre and other socio-economic factors.

3. If the estimated β coefficient is significant we have the following explanations :

   (a) Ratio of non-primary workers to primary workers is an increasing function of population density. That means higher population density leads to higher work participation in non-primary activities.

Mathematically :

$$Y=f(x_1\ z) \text{ and } \frac{\delta y}{\delta x_1}=\beta_1>0$$

where, X_1 is population density and Z is other variables.

(b) The ratio of non-primary workers to primary workers is a decreasing function of sex ratio. It is expected because in Indian situation comparatively more males are engaged in non-primary activities and due to male selected inmigration to urban centres for getting job, a lower sex ratio is observed.

$$Y=f(x_2, z) \text{ and } \frac{\delta y}{\delta x_2}=\beta_2<0$$

where, x_2 is sex ratio and z stands for other variables.

(c) The ratio of non-primary workers to primary workers is increasing function of literacy rate. As it is envisaged that due to the immigration to urban centres, (generally migrants are literate persons) literacy is higher in comparison to other areas

$$Y=f(x_3, z) \text{ and } \frac{\delta y}{\delta x_3}=\beta_3>0$$

where, x_3 is level of literacy and z are other variables.

(d) If x_4, i. e. dummy variable equals to one, higher the value of endogenous variable is expected. That means that Y is expected to be an increasing function of x_4 (positive value of β coefficient for x_4).

Model and the Description : Its Numerical Results

The analysis is based on the general linear regression model. Three sets of the multiple regression equations have been computed for finding the results. The first multiple regression is related to aggregate analysis and is labelled as model I. Similarly the second and third equations are related with the within corridor analysis and outside corridor analysis respectively and are labelled as models II and III. These models explain the effect of population density, sex ratio and the level of literacy on the ratio of non-primary workers to primary workers. The regression equation in mathematical relations is as follows :

$$Y=\beta_0+\beta_1x_1+\beta_2x_2+\beta_3x_3+\beta_4x_4+\mu_1$$

The β coefficients and the parameters of μ distribution are unknown and our problem is to obtain the estimates of these unknowns.

The results of estimation for the three models calculated with the help of Polish Computer "ODRA 1305" are the following :

Model I

$$Y=5024.7504+0\ 0885\ x_1-5.3054\ x_2-4.4504\ x_3+34.7402\ x_4$$

(990.1200) (0.1497) (1.0119) (5.0790) (39.3322)

t ratios 5.0749 0.5911 5.2426 0·8762 0.8838

$R^2=0.9308$, $DW=1.7409$, $S=63.9083$

Model II

$$Y=8522.4906-0.0520\ x_1-9.2847\ x_2-1.3745\ x_3+127.4072\ x_4$$

(2160.4618) (0.3246) (2.2704) (9.2937) (77.7109)

t ratios 3.9447 0.1602 4.0894 0.1479 1.6395

$R^2=0.9000$, $DW=1·4842$, $S=118.8103$

Model III

$$Y=-76.6678+0.9348\ x_1-0.2401\ x_2+2.9510\ x_3+70.0674\ x_4$$

(439.6889) (0.1350) (0.4592) (2.2343) (36.5707)

t ratios 0.1744 6.9236 0.5228 1.3208 1.9159

$R^2=0.9446$, $DW=2.1292$, $S=32.6651$

where, R^2 denotes the coefficient of determination,
DW denotes the Durbin-Watson statistics,
S denotes the estimate of standaad deviation of error terms,
t is the test of significance (figures in the brackets).

Although in the model I all the variables possess expected signs except the level of literacy (x_3). Their 't' ratios do not show the high significance of variables, except variable x_2 (sex ratio). The value of R^2 is 0.9308, which indicates that about 93% of the variation in 'Y' is explained by this model. But this is due to the high degree of multi-collinearity between the explanatory variables. The variable x_3 is found to be highly correlated with x_1 and x_2 and as such a further attempt has also to fit the model by excluding · the variable x_3 from the model I.

In the model II again only one variable, i. e. sex ratio (x_2) has the expected sign as well as the significant 't' ratio. Other coefficients are insignificant. The value of R^2 is 0.90 which is very high and it may be due to the high degree of multicollinearity between the variables x_3, x_2 and x_1. Here again variable x_3 is highly correlated with the x_2 and x_1 and therefore yet another attempt is made where the model is computed by excluding the variable x_3 from the equation.

Though the first two models are seriously affected by the problem of multicollinearity, the third model provides us with comparatively good results, All the estimated β coefficients possess the expected signs, but only two of them, viz. population density (x_1) and dummy variable (x_4) are significant (see 't' statistics). The value of R^2 is 0.9446, which means that about 94% of the variation in the dependant variable are explained by the explanatory variables. Although, in this case, variable x_3 (i. e. level of literacy) is not correlated with other explanatory variables as in the first two models, variable x_2 (sex ratio) is found to be correlated with the x_1 variable. Consequently, for getting good results, in the second attempt this variable (x_2) too is excluded from the model.

The Durbin-Watson test has also been applied to test the hypothesis of autocorrelation. It is observed that the models I and III are not affected by the problem of autocorrelation, while in the case of second model, the test is proved inconclusive.

The estimate of standard deviation of error term (S) is calculated and it is observed that it is the lowest in the case of model III and highest in the case of model II. This indicates that out of the above three models, model III is more reliable than the other two. For the sake of removing the problem of multicollinearity, the trio models are computed once again and the results obtained are given below :

Model_I

$Y=4061.9269+0.1477\ x_1-4.4494\ x_2+44.4558\ x_4$

(1102.4206) (1.1670) (0.1602) (35.1175)

t ratios 3.6845 0.8844 3.8350 1.2659

$R=0.930274$ $DW=1.6309265$ $S=61.6301$

Model II

$Y=8150.3247-0.0208\ x_1-8.9440\ x_2+127.4117\ x_4$

(1987.7436) (0.2835) (2.1129) (9.1992)

t ratios 4.1003 0.0735 4.2329 1.8412

$R^2=0.8995$, $DW=1.4277$, $S=114.4823$

Model III

$Y-303.6535+0.9938\ x_1+2.6718\ x_3+67.7169\ x_4$

(67.6178) (0.0719) (2.1080) (35.2644)

t ratios 4.4907 13.8027 1.2675 1.9203

$R^2=0.9434$, $DW=2.1125$, $S=31.7390$

It is evident from the model I, that all the signs of the coefficients are as expected with the exception of variable x_2 (i.e. sex ratio), no other variable possesses the significant 't' ratio. The values of R^2 and S are approximately similar to that we could obtain in our first attempt. There is no doubt that the 't' ratio for the dummy variable has raised from 0.88 to 1.27. But even this does not throw much light on the effectiveness of this variable and hence no significant improvement can be observed in the second attempt too in respect of the model I.

In the case of model II, a comparatively satisfactory improvement is evident in the second attempt. Although the value of R^2 is approximately the same, the 't' statistics for the dummy variable becomes more significant. In this case, with the exception of variable x_1 (i.e. population density) all other variables possess the expected signs as well as the significant 't' ratio. In other words, if we exclude the literacy variable from the model II, we may find that the sex ratio and dummy variable affect the nature of work participation, while population density does not play any important role.

As mentioned earlier in the third model, we excluded the varible x_2 due to the problem of multicollinearity. Here no further improvement is observed and in fact the 't' value for the variable x_3 (literacy) becomes a little less, although at the same time we find a significant intercept, which was insignificant in the previous situation. The other statistics, viz R^2, DW, and S are almost the same.

Are our Expectations Confirmed ?

It is evident from the models and their test of significance that the coefficients for the variables like population density and literacy are not significant. Therefore, it may be concluded that these variables do not play any significant role in determining the nature of work participation in economic activities. But this conclusion is quite illusive, because it has also been confirmed from the correlation matrics that dependent variable Y is highly correlated with the variables x_1 and x_3. It seems that these coefficients are not significant due to the presence of multicollinerity. Hence although in the models discussed above, the coefficients are not significant even though they have certain impact upon the dependent variable Y.

The variable sex ratio possesses a significant role and determines the endogenous variable for the corridor. region as well as the region as a whole, but no significant impact is observed at the outside corridor region. Dummy variable, (i.e. the presence of the other urban area) affects the population living in its vicinity and consequently a significant effect on dependant variable is observed. Although the value of dummy variable is only one, in case of the presence of any urban (town) which is a bit lower, it has a significant meaning in trio model. This shows that there are also other important variables like industrialization, level of the social and economic infrastructure, the Government policies about the regional development, availability of other resources etc. which determine the nature of work participation in economic activities.

This analysis draws attention towards the fact that there is a tendency of immigration, wherever the work participation is higher in non-primary sectors and in such areas lower sex ratio is also observed. In other words, the sex ratio, which is affected by migration too, affects the nature of work participation significantly. Moreover, this is seen highest in the within corridor regions and least in the outside corridor region. Similarly, the dummy variable is also most effective in within corridor regions because generally towns are located inside the corrdors.

Limitation of the Model

Since this study is based on the data provided by the Census of India, 1971, it deals with merely one point of time and highlights the existing relations only and hence tends to be a little static in nature. However, it can be made dynamic by using the data of three or four censuses conducted earlier and then it would become more useful for the purposes of planning.

The varible x_3 seems to be misleading because the denominator (total population) includes all the children below the age of 4 years also and they are naturally illiterate. Hence there is an inconsistency between numerator and denominator. By excluding the population below the age of 4 years from the denominator, this error could have been rectified, but no data according to age distribuion of population are available at village level in 1971 census and as such it has not been possible to do so. In this model we have introduced only four explanatory variables, namely, population density, sex ratio, level of literacy and dummy variables, although two other variables, i.e. dependancy ratio and migration should also have been included for better results. But due to the non availability of data with respect to age distribution of population at village level as also on migration it has become impossible to include these variables into the analysis.

Usefulness of the Model

As pointed out earlier, this model can be converted into a dynamic one which would be useful for planning purposes. For effecting a switchover from the static to dynamic relations we require time series data along with the cross-section data. For this purpose we can include the data given by the censuses conducted previously. As an illustration to this point, let us assume that the data starting from the census 1951 may be taken into account. Hence we may construct the same model for each census beginning from 1951 and we can have the three equations of each model and our object will be to forecast the fourth set of equations which will be related to 1981 census. Moreover, after the completion of the 1981 census one more equation can also be evolved by using the data provided by this census and it can be compared with the equation forecast. It will definitely throw some light on the reliability of the forecast coefficients.

In the mathematical relations this model can be explained as follows:

$$Y^{51}=\beta_0^{51}+\beta_1^{51}x_1+\beta_2^{51}x_2+\beta_3^{51}x_3+\beta_4^{51}x^4+\mu^{51} \qquad ...(1)$$

$$Y^{61}=\beta_0^{61}+\beta_1^{61}x_1+\beta_2^{61}x_2+\beta_3^{61}x_3+\beta_4^{61}x_4+\mu^{61} \qquad ...(2)$$

$$Y^{71}-\beta_0^{71}+\beta_1^{71}x_1+\beta_2^{71}x_2+\beta_3^{71}x_3+\beta_4^{73}x_4+\mu^{71} \qquad ...(3)$$

$$Y^{81}=\beta_0^{81}+\beta_1^{81}x_1+\beta_2^{81}x_2+\beta_3^{81}x_3+\beta_4^{81}x_4+\mu^{81} \qquad ...(4)$$

The β coefficients of the four equations can be forecast by utilizing the information about the coefficients given by the equations first to third. Yet another set of equations (5) can also be obtained after the completion of the census of 1981, and the estimated

$$Y^{81^*} = \beta_0^{81^*} + \beta_1^{81^*} x_1 + \beta_2^{81^*} x_2 + \beta_3^{81^*} x_3 + \beta_1^{81^*} x_4 + + \mu^{81^*} \quad \ldots(5)$$

coefficients are compared by the equation (4), which in return will provide the reliability of the forecasts. But for the time being, in the absence of 1981 census data, one can use the information provided by equation fourth, for the purpose of planning.

Similarly, another set of equations for the year 1991 can also be forecast, but since the period will be longer the reliability of the forecasts will also be lesser. Here special attention must be drawn to the fact that there are some changes which had taken place with the pace of time. The results contained will not be reliable in case we ignore the same. For example, changes in the boundaries of the region and census definitions for the variables required some adjustments at the time of formulating the equations. Similarly, the map used for the 1971 census is not applicable to the previous censuses data, due to the changes in village boundaries or the emergence of old villages into new one and to the construction of new railway line, road, etc. Therefore, for estimating the equations related to the previous decades it is absolutely essential to consider and incorporate these changes into analysis.

LOCK-OUTS IN WEST BENGAL

The highest number of lock-outs in West Bengal in recent years took place last year when there were 202 cases against 191 in 1977. 152 in 1976, 166 in 1975 and 173 in 1974. Violence accounted for most of these cases. Go-slow agitations were responsible for 33 lock-outs, and disputes over wages for 25.

The number of strikes last year fell to 172 from 206 in 1977. Strikes were fewest during the Emergency. There were 111 strikes in 1975 and 129 in 1976 against 163 in 1974 and 204 in 1973.

Disputes over wages accounted for the largest number of last year's strikes. The number of man-days lost due to strikes was 5,216,854 against 3,963,301 lost due to lock-outs.

Technology and Environment

S. A. Ali*

Man has been using some technology to control nature to satisfy his needs for ages. The application of technology, it appears, has some effect on the environment. (Environment refers to the surrounding conditions influencing development or growth by providing a stream of services). Materials (clay, wood, iron, water, etc.) are taken from the environment at one point. They are used with the help of some form of energy (human/animal, fossil fuels, possibly nuclear). Then they are returned to the environment at another point (land, air, water). This means that materials taken from the environment are eventually discarded as wastes or residues to the environment (land, air, water). But during the process of conversion for use as final goods, some material is lost as waste or residual. Thus, the total amount taken from the environment is in the end returned to the environment.

It would appear, then, that there need arise no problem for the environment. Because, what is taken from it is in the end returned to it. But, what has happened since the original extraction is that the materials have undergone change, and not all of them are returned in their original form to the same point in the environment. They return to different points in a changed form. This gives rise to what is called pollution of the environment. Pollution of the environment means that such materials enter it as a foreign to it. If they are more than can be absorbed, they damage it. The damaged environment cannot function smoothly. The difficulty is similar to carrying a heavier load. If the damage gets worse, it may become irreversible and lead to the collapse of the environment.

Sometimes the materials taken from the environment are used as they are. Little energy is required. Usually human energy is sufficient. For instance, clay is taken from environment, and made into pottery on the potter's wheel. Here only human energy is enough, save for firing, which is done with bits of wood and dry leaves. Stone and wood are similarly used. Simple stone and wooden implements and other articles were made by our ancestors for various purposes, such as to store grains or to kill animals for food. I do not know how they killed the birds, but if they used the catapults, they must have been extremely good shots. With these crude tools man certainly had some advantage over the animals with whom he lived in the crude huts in the jungles. Man has extensive powers now. Tools have become a terror complex. He can blow up the world, and with that himself too. Perhaps not bad for family planning, or for resolving so many social and political issues.

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* Patna, Bihar.

Steel is the most widely used material. Fossil fuels (coal, natural gas, petroleum) largely provide the energy. Little human energy is used—press the button and the job is done.

Plastics are another important material in use. In 1868 they were invented as substitutes for ivory, but owing to high inflammability and lack of technology for moulding process the use was restricted. In 1909 came bakelite. This laid the foundation of the synthetic plastic industry. The use of plastics is well known. Almost everything is now plastic. But, what are they ? The vital raw materials for plastics and synthetic fibres are ethylene and acetylene (colourless, inflammable gasses), and naphtha, a petroleum product.

Steel, plastics, and other materials taken from the environment are used in the economic activity. Some of them are highly power-intensive, e.g. aluminum, which requires over 20.000 kwh of electricity to produc a tonne of aluminum from bauxite. However, the used materials are in the end thrown away, and in the process are transferred to another part of the environment. Land, air, and water become their habitat, or receptacle. Fossil fuels, or any materials, when burned are seemingly absorbed somewhere in the environment. Leaving aside the technical aspect of absorption, it should be noticed that what is lost in the process is the heat radiated into space. This heat is in addition to what is already present. It would be appreciated that to some extent this will affect the temperature. For instance, open spaces are cooler than built-up areas, because free flow of air in built-up areas is less, and economic activities which use energy radiate waste heat in addition to the kitchen heat. But, materials once used are usually not recoverable in their original or converted form. Some materials are salvaged and used again, if economically possible, that is if the salvaged material does not cost more than the virgin material. Steel rusts and returns to earth. Plastic burns and is lost as gases and waste heat to the air. The nature of what returns to the environment has changed, and this gives rise to the recoverability factor.

The environment claims back all materials in the end, just as it claims man.

Technology, however, is used by man to obtain food, shelter, and various amenities. Man can now easily use the environment to his advantage. This use brings him into conflict with nature. Perhaps modification of the environment may not be a source of concern, but the trouble is the scale, speed, and sometimes the irreversible nature of modifications. These modifications show up in pollution of land, air, and water, and disturbance of the quiet which is called pollution by noise. For good health quiet is essential. If there is no quiet, health will be damaged.

Extent of the Problem

The impact of human activities on the environment leads to application of technology. That is the use of scientific knowledge to control nature causes pollution. Pollution control implies controlling the nature of man, which is a socio-legal problem.

Technology used by industry for increasing output of goods and services then becomes a source of pollution. The use of non human energy, instead of manpower or labor, increases the load on the environment from wastes. Some of which seem to disappear in the atmosphere, such as gases and smoke, some are disposed of in land, or into water, as solid wastes and effluents. The volume of wastes obviously depends on the size of the population, and the extent to which technology is used. Both, if uncontrolled, appear to be the major threats to the environment, and probably to human existence itself.

Some technology can improve a particular degradation of the environment ; for instance, the use of nuclear power puts less load on the air for each unit of the output produced. So, it appears that environment policies must plan such improvements purposely. This means that other disciplines will have to be associated when a technology is being considered for adoption. That is the economic basis of pollution will have to be clearly established otherwise all economic growth will be held up by relying on what the environmentalists or conservationists say.

Therefore, it is essential that a good team of natural scientists should be set up to consider and advise the economists the limits to which growth could safely go. So far the UN Environment Programme has done nothing about this.

Several kinds of opinions and interests* are involved in the debate about economic growth and its effect on environment. There is utter confusion and the issue cannot be settled if the governments persist in treating the question of environment as if it were a big nuisance, and tackle it piece-meal. Take Mathura Refinery, for instance. The project cannot be scrapped as a lot of money is tied up. Shifting to a place where it can do relatively less damage is also unlikely. The proposed use of gadgets to control pollution cannot be cent per cent successful. So, if the project remains at Mathura, the Taj and the Vrindaban temples are likely to be lost for ever. Their ruins may remind posterity of the folly of their ancestors !

A closer review of the situation is likly to show that rapid population growth is at the root of the trouble, as also the danger of its continuation. Because, to provide material goods and food for a growing population some high powered technology has to be used, be it mechanised production of goods, or expansion of food production through application of massive doses of chemical fertilisers, pesticides (the WHO has estimated recently that some 500,000 people are killed or incapacitated by pesticide poisoning every year[1]), and herbicides. So, technology alone is not the villain, for, after all, it is man's creation.

Unless, therefore, social control is exercised or introduced in time, it is almost certain that the level of pollution will rise enormously as production is increased to meet the need of a rising population. Theoretically, the effect of pollution is ultimately to kill a large number of people. Wars serve the same purpose. So do other evils.

Nature and its forces are used by man to satisfy the primary needs for food and shelter. Varying degree of success has been achieved by technology in harnessing nature. Consequently, some groups and societies have over abundance and resultant over-consumption, and consequential rising waste generation. Technology affects every day life. While the problems of pollution and environmental degradation are what the society chooses to consider them. Those who are concerned about this have already started taking remedial measures to some extent. But, it appears that the status quo is allowed to persist. They talk about the environment, but build nuclear arsenals, and test by exploding their handiworks. India has achieved self-reliance in nuclear technology, and is using nuclear techniques in pollution control.[3] This may be a satisfactory position, but excessive leukaemia deaths are reported from American nuclear test in Nevada; and Nobel Laureate Professor George Wald is against nuclear use in any form: "The atom has no peaceful uses. It is all useless talk."[4] They talk about unemployment, but persist in developing newer technolgy to use fewer men. They talk about energy shortages, but waste it, even in poor and backward regions. Surely this is not showing much concern for the environment.

Advances in medical science, particularly since 1945, have caused population growth owing to fewer deaths and longer life. This is a constant strain on available resources, and may cause conflicts for survival. Population is rising, and with that the demand for non-energy and for food. Both pollute. The level of pollution depends upon the kind of technology used. The more advanced the technology the more there is pollution, save with nuclear technology which has its own radiation hazards.

It must be emphasised that population increase is at the root of the trouble. Because, the demand for food increases, and to meet it high powered technology is required. Large amounts of chemical fertilisers, pesticides, and herbicides must be used. They enter the ecological chains through seepages into ground water and run-offs flow into rivers, lakes, and the sea affecting marine life. Ecology refers to surroundings. Not only this, the demand for living space is increasing, which results in urbanisation and the squalor of slums. But, there is another reason for this, the hope of employment in towns.

Population, demand for various minerals, and services are increasing exponentially. Exponential increase means that a quantity increases by a constant percentage of a whole in a constant or fixed period of time.

Exponential increase relates to the available resources and the effect of extracting them, and to the load of wastes involved in converting them into goods.

India's Population Size & Growth Rate

Year	(million)	Growth rate (% per year)
1961	435.5 actual	— —
1971	546.9 ,,	2.3
1974	581.2 estimate	2.1
1979	636.8 ,,	1.8
1984	685.6 ,,	1.5
1986	705.2 ,,	1.4

See : S. A. Ali : Resources for Future Economic Growth, (Vikas).

Supposing the population grows at 1.5% per year from 1984 onwards, it is likely to be 868.2 million in 2000 A. D. Rising population, though at a lower rate of growth, will press on available depleting resources. The population is frightening as living space is becoming a bit too crowded, insanitary conditions are increasing because the service available is inadequate, let alone inefficient. Overcrowding means that the population is faced with a fixed amount of living space. Habitations cannot grow vertically indfinitely, that is the spectre of tall buildings must end, and must then grow horizontally. But, this will mean spreading out into the neighbouring agricultural areas. In consequence the size of the agricultural land will shrink, and will mean a possible reduction in food grown, in apite high powered fertilisers, etc. Thus, a shortage of living space will produce a shortage of food. From this it is clear that population problem has created the problems of finding food for the growing population along with living space.

Currently the population may merrily be growing at over 2%. The reason for this assumption is that birth control has not been popular.

There is pressure on mineral and other resources to satisfy the rising demand According to my estimates for the period 1964-2000, the growth rate of mineral consumption, inclusive of exports, will be as tabulated below, and in a matter of decades most of them will be used up. What will happen then needs to be carefully considered, because reliance on imports is dangerous as they may just not be available owing to economic and/or political reasons.

India's Nonrenewable Natural Resources

Resource	Usage Growth Rate % per year	Exponential Index (Life span of mineral resources at UGR)
Bauxite	13.1	30
Iron	3.5	47
Manganese	2.1	1.5
Coal	1.7	100
Natural Gas	5.4	23
Petroleum	5.1	6
Chromite	9.6	8
Copper	1.6	8
Elomite	2.7	57

Source : Op. cit.

As there has not been any shortage of manganese, it appears that more indigenous resources are being proved by geologists, that is their existence is becoming known with great certainty and that they can be mined. Even if all the known reserves of this mineral can be proved there will not be enough to convert all the known reserves of iron into steel for which manganese is used in smelters. Petroleum has to be imported as there is not enough in India, but imports will cease as all oil is likely to disappear in about 30 years. Coal will have to replace wood as domestic fuel as its supply is decreasing rather fast. The Indian Council of Agricultural Research is preparing to encourage plantation of special varieties of trees and shrubs, which are fast growing, to overcome scarcity of fuel and fodder in the villages[5]. Domestic requirements of coal aside, enormous quantities will be required by the new steel and other works that are planned to be set up. Coal supply may not last 100 years as given by the Exponential Index, but perhaps 40, because the usage growth rate will increase.

Coal and petroleum have been stressed as they are the basic sources of energy. Potential hydro energy is small. Solar, geothermal, and tidal energy are a long way off. Nuclear power is in use on a small scale, it has its own built-in hazards, and unless Indian scientists develop indigeneous fuel for nuclear power plants, the Tarapur type of crisis will always persist. Extensive and rather expensive R&D are required to develop this fuel. Money is a constraint, though there appears to be no dearth of it for less important projects. Clear-cut political decision is imperative here ; reliance on the whims of old friends would just not do as they have their own interests to look after.

However, all these growths will increase the pollution problem, which may become intractable if no immediate steps are taken in every sphere where a rise is anticipated, starting, no doubt, with the human population. Decision in these matters is political, an economist is an outcast here.

Impact for Environment

Discharge of waste heat to rivers, lakes, and estuaries is a serious problem. Such discharges come from various sources. Industrial processes and production of electricity which use water cooling processes discharge heated cooling water as waste heat. Unlimited amount of waste heat cannot be discharged into water bodies as their temperature will rise and damage marine life and pose a serious threat to the environment within the water, e.g. cause the growth of algae, etc., and ultimately the ability of water to absorb organic waste will be reduced as bacteria decompose. Electricity generating plants use cooling towers from which vapour enters the atmosphere as waste heat. This produces local effect on the environment and causes visual disamenity from the haze. Perhaps too much of vapour in the atmosphere is not good for the lungs. However, the heated water which is discharged on replacement does enter the ground and affect underground water. In fact all human activities produce waste heat which is discharged to the environment and affects it. Science has not been able to prevent this.

Some general points can now be developed using the example of waste heat dischargad into water bodies.

i) The "thermal pollution" mentioned above refers to waste heat from the generation of electricity, or other industries using similar cooling method. Apart from this, particulates and chemicals (gasses) are discharged from these plants into air and water. Machines will produce some noise. When a discharge becomes socially unacceptable it becomes a pollutant. Social acceptance depends on technical factors, which determine if a pollutant, rather discharge, is harmful to human health, agriculture etc. Waste heat can be used for drying crops, removing dampness from storage facilities, evaporation and concentration of sewage, etc. But, this is costly. Society will accept a pollutant if it does not cause morbidity or deaths, etc, or upon subjective reaction, such as a damage to a beautiful landscape, etc.

The controversy about the effect of growth on the environment has been confusing owing to mixing up physical and subjective values. Pollutants such as carbon monoxide, carbon dioxide, sulphur dioxide, particulates, etc., and waste heat produced as a result of economic activities can be physically measured. But the damage done to beautiful views, recreation grounds, parks, etc. from economic growth cannot be measured. There is no point in mixing up what can be measured, and so priced, with what cannot be measured, and so remain unpriced. Efforts are, however, being made to find a method of pricing the subjective damage resulting from growth.

Some sources of pollution such as automobile, railways, etc., have found favour with the public. They continue to serve, but damage the environment. Perhaps dirt and poisonous chemicals may not find favour.

ii) Pollution does not remain confined to the point of discharge. It spreads even to far off places. The Penguins have been found to contain DDT in their blood, and they live in the Polar regions. Waste heat discharged into a river passing through two or more states or countries does not remain confined to the point of discharge, but flows all along. The release of poisonous gases from tall chimneys in an industrial area must cause air pollution elsewhere also, depending on the course of the wind.

iii) Nuclear power can replace fossil fuels. It does not pollute the air, but the hazards always persist. The environment can be kept clean to a very large extent with the help of technology, but at the cost of substituting one hazard for another. The choice as a result of change of technology is clearly between risks and hazards at different points in time scale. Some risks appear immediately (cyanide) others take time (DDT). The choice of technology if often made primarily subject to economic considerations, the question of welfare or disamenity comes later for scrutiny when science discovers the possible danger. The cost-benefit approach to technological change is an interesting exercise, but how does it help to minimise pollution, unless pollution is priced and taken into consideration as no technology is pollution free. It is to the credit of Ayres and Kneese, Daly, Isard, and Leontief to have incorporated economic-environment-intereactions in their input-output analysis.[6]

In view of the extent of pollution, and the meaures taken to control it appears that any "social control program" that is a policy of introducing a change in the society, depends upon the "historical background" of the people, and the nature of technological risk. Complex and deep-seated social attitudes and responses besides the nature and level of technology seem to influence such a measure. If people can bear noise without bothering about it, they will never control it.

Technology Assessment

The standard of living of people seems to depend upon the amount of consumption, security available, and leisure. But, as pollution of environment is on the increase, it is essential that other factors will have to be included in this concept. Increasing affluence has led to increasing effluence, which has created the problem of the environment. So, it appears that the concept of standard of living must include what is called the "quality of living". Again, "quality of living" will depend on the historical background of the people. Assuming "quality of living" has been defined and a new technology is being considerd for adoption, it would be necessary then to consider its effect on the quality of living. This can be done on the basis of economic, or technological view of the environment. But, a realistic approach is to weigh all these views to see how the new technology affects the environment, and so the quality of living. Here environment has been given a wider definition. If the damage to the environment is less, the technology might be adopted, if not, it should be rejected. If neutral, economic and technological considerations will decide the issue.

The pollution of land, air, and water should not be considered separately, but all together. Because, technology can turn one pollution into another. For instance, poisonous gases coming out of steel plants pollute the air. By the process of scrubbing the air can be kept clean, but this will cause water pollution. Solid waste when burnt pollutes the air, but free the land from pollution. If not burnt water bodies can be polluted through seepages and overflows. These examples show that getting one disamenity out of the way brings in another. This is substitution, which has economic and technical basis. Economic from cost considerations ; technical from the adoption of a particular technology, here also cost is involved.

Other examples can be given. An interesting one is that if automobiles are less noisy, the incidence of accidents would increase as many pedestrians would not hear an approaching vehicle. Noise pollution is a class by itself ; it can be kept low at great cost posing complex control technology. But the source from which it comes can pollute land, air, and water, e.g. machines churning in a factory, etc.

The cost of controlling pollution must be considered from socio-economic point of view. If society can accept "muck", no pollution control cost is involved. But there is a limit to their acceptance. Theoretically, the concern for environmental pollution depends upon the extent of damage suffered by the society, particularly in respect of health and other amenities it values.

This concern finds expression in legislations relative to control over the damaging effects of industrialisation and technical change. The cost of pollution control will depend upon the desired standard for the protection of the environment. Technology assessment is concerned with the following matters.

i. Monitoring the level of pollution.

ii. Converting these physical pollution levels into a measure for comparison with other disamenities. Obviously this measure will be in money terms, although the value of money also keeps on changing ; but ignore this for the present. Problems of valuing aesthetics have not been considered yet ; but with tourism on the increase, some thoughts will have to be given.

iii. Informing the public about the benefits of technology and the cost of pollution control.

iv. Assessing public reactions to (iii).

v. Suggest a suitable course of action to those concerned.

Population is rising, demand for goods and services is increasing, resource base is shrinking, and in consequence high powered technology is being employed (and developed) to satisfy demand. The result is inflation coupled with further degradation of the environment. Inflation is damaging economic and social stability, and pollution of the environment and the health of the people, in fact their very existence. In the circumstances the only sane course seems to be to live and compromise with nature. How best to do this is for natural scientists to show, and tell the economists the limits to which conventional growth could safely go. The economists alone can at best recommend labor intensive technology based largely on renewable resources. They can do no more.

Notes

1a) Pessimistic Ecologists—Barry Commoner : *The Closing Circle. Cape, 1972.*

b) Optimistic Technocrats—J. Maddox ; *The Doomsday Syndrome.* Macmillan, 1972.

c) Hopefuls (who want to preserve the existing conditons, yet hope technology will save the environment)—
R. G. Lee : *World Savers or Realm Savers.* Berkeley School of Forestry and Conservation, University of California, 1970.

d) Marxist Defenders of Technology—H. Rothman :
Murderous Providence. Hart-Davis, 1972.

e) Advocates of zero population growth which they claim will lead to a steady state.

f) Undecided group which cannot make up its mind if economic growth is to be based on capital intensive or labor intensive technology, and whether it should be based on non-renewable resources or renewable resources and whether force is to be used to restrict births. (Non-renewable resources are fossil fuels, iron, copper, etc. Renewables are cotton, jute, timber, cattle, etc).

2. 500,000 pesticides casualties every year. *The Times of India.*
3. Self-reliance in N-technology : Sethna', TTOI, 11 January 1979 ; 'N-Technique Being Used In Pollution Control', Vol. 10, 10 January 1979.
4. 'More leukaemia deaths near US N-test site', TTOI, 9 January 1979 ; 'Nobel Laureate against nuclear use in any form'. TTOI, 5 January 1979.
5. 'ICAR bid to meet fuel scarcity in villages', TTOI, 11 January 1979.
6. J. H. Cumberland : 'A Regional Inter-industry Model for Analysis of Development Objectives', *Regional Science Association Papers*, 17, 1966, pp, 65-95 ;

   H. E. Daly : 'On Economics as a Life Seience'.

   The Journal of Political Economy, 76, May/June 1968, pp. 392-406 ;

   W. Isard ; 'Some Notes on Linkage of Ecologic and Economic Systems', paper presented at the Regional Science and Landscape Analysis Project, Deptt. of Landscape and Architecture, Harvard Univeristy and Regional Science Institute, 27 March 1969 :

   P. U. Ayres and Allen V. Kneese : Production, Consumption, and Externalities', *The American Economic Review*, LIX, June 1969, pp. 282-297 ;

   W. Leontief : 'Environmental Reperoussions and Economic Structure : An Input Approach', *Review of Economics* and Statistics, LII, August 1970, pp. 282-297.

Commercial Banks and Agricultural Finance

H. M. Sharda*

In India, 70% of the agriculturists numbering 491 lakhs, have operational holdings up to 2 hectares and they operate only 21% of the cultivable area, while the remaining 30% numbering 214 lakhs, share 79% of the cultivable land. Many of these small plots are fragmented and thus uneconomic. The irrigation is only available to 24% of the area of which about 50% is still of protective nature. A large number of farmers thus depend upon one crop. Crop failure due to natural hazards, such as, floods, droughts, pests etc. is a common feature. Besides, a large number of agricultural labourers, there were 475 lakhs, according to 1971 census, are without work for about six months in an year and therefore they live in abject poverty. Agriculture and allied activities, however, continue to contribute 50% of the national income. Due to the low productivity in agriculture and lack of subsidiary occupations in the rural area 59% of the rural population are living below the poverty line and urgent measures, including provisions for adequate institutional credits, are necessary to ameliorate their sufferings.

2. Introduction

The institutional credit for agriculture is provided by the government, co-operatives and the commercial banks. The public sector banks which include State Bank of India, its seven associate banks, and 14 nationalised banks, have played significant role in the post nationalisation period in dispersing rural credit. The newly established regional rural banks are also providing credit particularly to small and marginal farmers, agricultural labourers and rural artisans. National Commission on Agriculture has estimated that the credit requirements for agriculture and allied activities by 1985 would be of the order of Rs. 16,549 crores; but the availability of credit would be about

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* Bilaspur, M. P.

Rs. 9,000 crores; which will be shared almost equally by the commercial and co-operative banks.

3. Progress

Advances to agriculture by the commercial banks at the end of June 1978 stood at Rs. 1694 crores and formed 10.6% of the outstanding advances and 39.8% of the total priority sector lendings. The outstanding credit to agriculture increased by Rs. 313 crores between July 1977 and June 1978 as compared with Rs. 289 crores in the corresponding period of the previous year. It may also be noted that commercial banks have issued loans during the financial year 1977 to the extent of Rs. 565 crores of which term loans were of the order of Rs. 250 crores; the remaining Rs. 315 crores were for short periods. The growth of agricultural advances both amount and account wise has been phenomenal during the post nationalisation period as indicated by the following table :

(As on last Friday of)
(000' omitted in A/c)
(Amount in Rs. crores)

Agriculture	Public sector banks		All scheduled banks	
	No. of A/c	Amount	No. of A/c	Amount
1. June 1969	165	162	268	188
2. Dec. 1976	4401	1229	4919	1335
of which :				
i) Direct Finance				
a) June 1969	160	40	257	54
b) Dec. 1976	3908	916	4413	1003
ii) Indirect Finance				
a) June 1969	5	122	11	134
b) Dec. 1976	493	313	506	332

Source : Report on Currency and Finance—Volume I, 1976-77.

Considering the large credit gap in the agricultural field as indicated by the National Commission On Agriculture, banks still have a long way to go.

4. Strategy

After their unsatisfactory experience in respect of scattered lendings, banks have now adopted area approach and generally prepare and implement credit schemes for a particular area. However, it has been observed by the expert group on Agricultural Credit

Scheme on Commercial Banks (Dr. G. V. Desai Group) that many credit schemes appear instruments to execute lending operations for fragmented purposes rather than for schemes to provide development finance in an integrated manner to make an impact on the economics of the borrowers. It is, therefore, obvious that local specific integrated schemes are formulated and implemented by banks with the effective coordination of the extension agencies. In spite of the above shortcomings, under their Village Adoption Scheme for extending financial assistance for an integrated development of the rural area, banks had by June 1977 adopted about 50,000 villages and financed 13 lakh farmers to the extent of Rs. 250 crores. With a large network of rural and semi-urban branches, 11,802 and 7,586 respectively as on June 78, constituting about 69% of total offices, and 4.500 offices likely to be opened in these areas by 1981, banks must embark on an ambitious programme of extending credit in a big way to the agricultural sector.

Banks will have by 1981 about 24,000 offices in rural and semi-urban areas. If each branch adopts in the next three years for integrated development only five villages, about 1,20,000 villages could be adopted, which would mean adopting additional 70,000 villages. The immediate credit gap in each village could be placed around Rs. 2/3 lakhs, and if the financing is made on the basis of area plans, an investment of at least Rs. one lakh per village could be made in the agricultural sector. This will mean an investment of Rs. 700 crores in the newly adopted villages by 1981. Pursuant to the recommendations of the National Commission on Agriculture Farmers Service Societies (FSS) are being organised and financed by the banks. Banks have set up 191 FSS, by March 1978. they are also taking over a large number of Primary Agricultural Credit Societies for financing. In addition banks will have to ensure that 60% of their incremental deposits from rural and semi-urban areas are invested in those regions only. With the intensive approach now being adopted, the ontstanding advances of banks in the agricultural and allied sector could be expected to be of the order of Rs. 3,000 crores by the end of 1981.

5. Rate of Interest

With a view to promoting investment in the agricultural sector, the Reserve Bank of India has stipulated with effect from January 1, 1978 that banks would not charge a rate of interest exceeding 10.5% p.a. on term loans with maturity of three years or more granted for the purpose of minor irrigation, land development etc. and a rate not exceeding 11% p. a. on similar term loans to farmers for diversified purposes, such as, dairy farming, poultry etc. The RBI under its 'Small Farmers Window' scheme grant refinance to the banks at bank rate for loans extended up to Rs. 2500/- to individual small farmers. In addition banks are granting loans at concessionay rate of interest of 4% p. a. under the Differential Rate of Interest Scheme (DRI) to the farmers, and landless agricultural labourers if the size of irrigated landholding does not exceed one acre and 2.5 acres, if unirrigated ; there being no land ceiling in case of land owned by scheduled castes and scheduled tribes provided they satisfy other criteria. The DRI Scheme which was operated in a few, selected backward districts by some banks has now been extended to the entire country and is being implemented by all the banks ; the prescribed minimum of DRI advances has been increased from ½% to 1% of total advances. It has also been stipulated 40% of the total DRI advances would be granted to the scheduled castes and scheduled tribes and 2/3rd of these advances are routed through the branches established in rural and semi-urban areas. It may, however, be noted that the benefits have not gone to many agriculturists as the scheme was predominently implemented in the semi-urban and urban areas. It is hoped that with a vast net-work of rural offices and new stipulations banks would be able to extend the benefiits under the scheme to a large number of small and marginal farmers and landless labourers. Banks have also extended concessionary rate to the Agricultural Refinance and Development Corporation (ARDC) for their advances to farmers for identified capital investment in agricultural and specified allied activities, such as, minor irrigation, land development, dairy farming, piscioulture, etc.

6. Recoveries

The biggest impediment to the accelerated growth in agricultural financing is poor recovery. The recovery for banks to amount demanded was 49.8% at the end of June 1977 in case of direct agricultural advances. While there may be various genuine reasons for the poor recoveries, such as, crop failure due to natural calamities like floods, droughts, pests, etc. the possibility of willful default in a large number of cases is apparently noticeable. This is primarily due to the reasons that bankers have virtually no powers to use coercive methods and disposal of cases filed in the courts for the recovery takes unduly long time. Further, even when the decrees are obtained by the banks, it becomes extremely difficult to execute them as lands below a particular ceiling cannot be auctioned and in many other cases buyers are not available. It is, therefore, necessary that in the case of failure of crops due to natural calamities, crop insurance on a selective basis, particularly for small and marginal farmers is introduced and implemented through the financing agencies so that the agricultural operations do not suffer on account of the paucity of capital, as banks do not finance a defaulter borrower. However, in the event of a willlful default coercive measures seem the only remedy and it will immensely help matters if a legislation could be enacted whereby a wilful default is treated as an offence and punishable as such. Extending of certain revenue powers to the banks may also prove helpful. Alternatively, establishment of mobile courts which could expeditiously decide cases at the block/village level and effecting the recoveries as arrears of land revenue may mitigate the problem to a great extent. However, in case of genuine hardships, banks will have to take a practical view and grant rephasement, longer gestation period, etc.

7. Conclusion

Indian economy is predominantly a rural economy with agricultural and allied activities contributing 50% of the national income. Agriculture in the country is still dependent upon the vagaries of monsoon. A scheme of crop insurance for small farmers together with stern measures for recoveries from willful defaulters is essential to further accelerate the investment in agriculture. Commercial banks with a vast net-work of rural branches are posed to play an important role in extending credit to this sector.

A Note on Central Budget 1979-80

Tapati Lahiri*

At first sight Mr. Charan Singh's Budget for 1979-80 reflects a large amount of deficit of Rs. 1.355 crores and he has tried to bridge the big gap in any way through various direct and indirect taxes. His tax weapon has touched the head of every person, even the poorest one. To speak in other words, his Budget reflects his motive that every person irrespective of his financial position has to make an equal rate of sacrifice for economic development. That is why kerosene and biris which are essential even for those who are living below the poverty line are heavily taxed. Taxes imposed on other items like cigarettes, soap, postals and many food items like biscuts, not to speak of taxes on coaking gas and instant coffee, are also unjustified, as these are daily necessaries for the lower-middle class people. In fact, the Finance Minister's intention is to raise Rs. 606.14 crores through indirect taxes alone. So innumerable commodities of common consumption are placed in his tax-net. He indirectly imposes tax on each and every essential and non-essential article as soon as he introduces a new tax on petrol. His levies will increase the cost of petrol by nearly 50 paise per litre. A tax on petrol will increase transport cost and hence the total cost of production. Theory suggests that indirect taxes fall heavily particularly on larger families and tend to be regressive. They also lead to ride in prices which may be greater than the amount of the tax. This indirect tax structure will increase the price level and thus our present year's budget will cut the level of consumption of the mass who are under-fed and under-clothed.

Coming to the field of direct taxation we find that he is intelligent enough, that is why he did not raise the level of income tax. Yet he wants still more resources in order to collect Rs.665 crores in new taxes. So he raised the rate of surcharge on personal income tax from 15% to 20%. Theoretically this step is taken as an anti-inflationary measure since it would cut effective demand of the taxed people. But judging from the practical point of view we find that there are not only great inequalities in its incidence in various provinces (as West Bengal and some other Provinces have introduced some new Income Tax in guise of "Profession Tax"). but also it is open to the very great objections in respect of those who are taxed, and it falls with disproportionate hardship on less wealthy and further that other classes, who might with justice be called upon to pay tax, are altogether exempted. Perhaps Mr. Charan Singh forgets that his indirect taxes could not exempt who are assessed to direct taxes, and so the income-tax-payers receive a double-barrelled attack from him.

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* Kanchrapara College, Kanchrapara, W. B.

To speak the truth, the biggest headache of the tax administrators in India is the problem of evasion and Government loses revenue as a result. It is sometimes held that the large amount of evasion in India is due to high marginal rates of taxation. So the high rate of surcharge imposed by the Finance Minister facilitates the path of evasion ; the wealthy private-practioners such as doctors, advocates and other self-employed will take advantage of it which it will cause hardship to the fixed-income group who are already heavily taxed.

The very rich section of our country, i. e. the tax-evadors, have made some sacrifice to the nation only by saving what they could have consumed. But one feature of this year's Budget is that it provides no incentive to encourage fresh saving and thus he puts obstacles to the way of self-sustaining economic growth. It is observed that in India like any other undeveloped economy, capital is not only in short supply but the scarce capital resources are further employed in a manner which does not facilitate an optimal rate of economic expansion. Absence of any positive measure encouraging savings habit has caused a diversion of the savings of the people into the traditional forms of investment in real estate, gold and ornaments, away from productive investment in industry and agriculture. Mr. Charan Singh's budget provides no scope for saving and investment motive. It contains no measures like higher interest rate policy, or a rise in the exemption limit in dividend. Rather, increasing wealth-tax, surcharge on personal income tax and indirect taxes on innumerable commodities will reduce the savings of the common people.

Fortunately the Finance Minister showed sympathy to the farmers in granting concessions in fertilizers, light-diesel oil and imported power tiller. Now the question arises how many people will be benefited through this relaxation. Apparently these are steps to enrich the 'Green Revolution' in the agricultural sector of our econmy. For Green Revolution comprises introduction of high yielding varieties of seeds which are fertilizer responsive and the irrigation and power projects occupy, a most distinct role in this "New Strategy". The area irrigated by means of irrigation schemes in 1950-51 was 51.5 million acres which constituted about 17.5 per cent of the total cultivated area of the country. This figure reached only 22% of the total cultivated area of the country at the end of the Fifth Five Year Plan. Green Revolution has brought 3 types of imbalances in our economy—regional imbalances, imbalances in rural income distribution and imbalances in employment structure of the economy.

As regards regional imbalances such states as Punjab, Haryana, Gujarat, Tamil Nadu, Andhra Pradesh and Maharashtra have in recent years achieved rates of growth in agriculture equal to about 9 to 10 per cent per annum, while others including Orissa, Bihar, West Bengal, Assam, Rajasthan and Kerala continue to hover around 3 to 4 per cent or even less.

Many research studies on Green Revolution come to the conclusion that affects the few rather than the many not only because of the environmental conditions but because the majority of the farmers lack resources, and are, 'institutionally' precluded from taking advantage of the new agricultural trends. Uma K. Srivastav, Robert W. Crown and Earl O. Heady comment: "The income disparity, even among adopters will grow over time. The ratio of large to medium farm's net income has grown from 2.39 to 2.48 or by about 4 per cent. And the ratio of net incomes between the large and small farms has grown from 2.39 to 2.48 or by about 4 per cent."

The purpose of the analysis of the impact of Green Revolution is to show that it continues to widen the income gap among the farmers. and Mr. Charan Singh's mercy falls on the wealthier group which comprises only 15% of the total farmers. The income-gap, therefore, will continue to widen in successive production cycles as it is invited by the Finance Minister.

Like all other underdeveloped economies the agricultural sector, still the largest sector, remains untaxed or lightly taxed and the burden of taxation will be shifted to other sectors and economic growth may slow down for lack of adequate finance. The economic history of Japan and Russia reveals that agricultural tax played a very active and important role in their economic development. But in India agricultural taxes proved to be a minor source of revenue and the revenue obtained from these taxes is not elastic. Between 1960-71 and 1970-71 while the proportion of income and corporation tax to national income from sources other than agriculture has risen from 4.1 per cent to 4.6 per cent, the proportion of land revenue and agricultural income tax (two most important taxes paid by agriculturists) to national income derived from agriculture has declined from 1.63 per cent to 0.15 per cent. Moreover big farmers have to care little for the payment of taxes. The system of separation of agricultural and non agricultural income for tax purposes also facilitates tax-evasion and helps in converting 'black' money into 'white' money.

In 1970-71 the total yield from land revenue and agricultural income tax amounted to Rs. 1.37 crores, which formed 0.85 per cent of the net domestic product from the agricultural sector. On the other hand, the income tax revenue in the same year was estimated at Rs. 473 crores which formed 2.60 per cent of the net product of the non-agricultural sector.

A thorough study of Mr. Singh's Budget reveals that it is rural oriented in nature, for he has provided various forms of relief measures for agricultural farmers. So cosmetics, air-conditioners, radios, soap, tooth-paste, tooth brushes, matches, pressure cookers, stereo sets, TV sets, steel furniture—all the items used by the middle class people of the urban area have been brought in the new tax-net. Perhaps, when he was making his budget he forgot that the poor and lower middle class people are now placed in urban areas. They have to do their study with lantern, instead of cigarettes they will have to purchase biris for want of funds. It is thus evident that the angry eyes of Mr. Charan Singh have fallen on the urban people.

To speak from ideological point of view, an ideal tax scheme should achieve twin objectives—first, it would raise enough revenue; second, it would expand more than in proportion to the increase of national income so that the State can finance a continuously expanding programme of investment. India's current year's budget could achieve the first objective but not the second one. New tax policy would increase the conflict between the richer and the poorer and thereby destroy the path towards the 'socialist pattern of society'. Further this new tax policy measures will increase the marginal rate of taxation and thereby invite the tax-evasion habits of the self-employed group and consequently government will lose revenue and its development programme will be hampered for lack of adequate funds. At the same time the present budgetary policy will deprive the common people of reaping the fruits of development plans.

Our budgetary policy invites inflation when the Reserve Bank has been trying its utmost to control inflation through appropriate monetary measures—i.e. a clear-cut non-co-operation of the budgetary policy with the monetary-policy, resulting in increasing instability in the economy,

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ECONOMIC AFFAIRS

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After Janata

The Janata Party was a product of National Emergency. It lingered in Indian politics on the shadow of Emergency. As the Emergency was receding it was receding too. The process accelerated when it began to behave like a political party mounting on the philophy of serving food to Indians in Western democratic dish. Its heart stopped beating at 6-30 P. M. on Sunday, the 15th July, with the historic resignation of the Prime Minister Mr. Morarji Desai.

Since the end of the monopoly power of the All India Congress in 1967 there has been split and further split in the organization. By and large there are two Congresses by now ; one the abode of defectors and the other net of defectors. In between there are a good number of Congressmen looking for a political home for survival from political oblivion. The Janata constituents are again taking up their regional colours. The national communists, the Chinese communists, the Soviet communists and miscellaneous communists working in India are in a desperate search of an opportunistic alliance to have an all-India footing with "progressive democratic forces", although none of them believes in progress of the nation nor in democracy.

Thus a political vacuum has been created which is going to be filled in by mid-term poll, as no patch-work, which would then be worse than the Janata patch-work, can survive. The creation of the vacuum proves that the ceaseless efforts of the super powers for sustaining democracy in India worked well to reject the Emergency. Rejection of Emergency, however, led to rejection of Democracy as well. This means that neither the Emergency as it is nor the Democracy as it is is acceptable to the people. A synthesis of the two is then the logical end. The advanced thinking should look forward for a practical synthesis of the two for viable action under new leadership.

Authoritarianship for a limited period of time is the only answer to the present socio-political situation of the country. But the term "authoritarianship" should be redefined. India shall not allow communist authoritarianship, thanks to the double game of the super powers, i.e. total doctrinaire domination over a man's material and mental life by a single party, to work. Similarly, it will reject personal or dynastic domination. What would be admissible is the total authority of the State on production and distribution to ensure material well-being of all the people. Total democracy would be left in all other spheres of life. This is what is correctly understood by "food with freedom". Food can flow if and only if the State (people) owns all the factors of production and is responsible to meet the minimum needs of each on the basis of work done. Freedom relates to thoughts, movement and expression and not to economy. It is the State which will enjoy the absolute economic freedom. This slight compromise with the conventional concept of freedom will sure to bring in food and freedom together to all.

This compromise or synthesis will not conflict with the multiparty political system, provided the Constitution of the country provides that a political party shall serve the interest of the people the substance of which is their material progress. It will also alienate non-national parties from the people since the people (State) will own all factors of production. It will also satisfy the hegemonic hunger of the super powers. For one will get 'democracy' and the other 'socialism.'

Whether one likes this synthesis or not, it is on the horizon. Any alternative to it would mean prolongation of the stagnation. That political party would be acceptable and durable which would be able to act on this line of thinking leading to the creation of New India.

Review

Planning for a Futureless Economy, P. R. Brahmananda, Himalaya Publishing House, Bombay 54, 1978, Price Rs. 35.00.

The greatest attraction of the book is the lucid presentation of economics of planning within easy comprehension of any tenderly informed student of economics. The author aims at criticising the Mahalanobis Plan Model which is a borrowing of the Soviet Plan Model. He has also not spared the New Strategy of the Janata Government i.e. the "6th" Plan. He has rolled out the strategy and hit it from all sides. He has questioned the empirical support of the new plan and has construed fourteen hurdles on its path. The Rolling technique has been discussed critically at some length and the author has been amused to find that the new plan is void of policy frame. In despire he resigns to the conclusion that the country is advancing towards a fruitless economy.

Population growth has become a great concern to the author. He has gone so far as to suggest that old-age security should be assured so that the "son preference" disappears. As if, son preference is not a social preference as daughter yields negative monetary value and, as if, biological urge is constrained by sex preference !

The author is against the policy of politics takes command. Still he expresses his praise for the Chinese technique of economic development because it resembles the wage-goods strategy which is also his prescription for India. He is reluctant to accept the contention that the success of Chinese plans is largely the result of contribution of her political system. He, however, misses the point that the "inward looking" Chinese planners are now looking outward for rapid development of their economy.

All will however agree with the author that "The New Strategy must be thoroughly, structurally altered. The Plan itself needs a complete overhaul." The point is how and for what purpose it should be overhauled. Further what is the harm in experimenting with the Japanese or West Germany's techniques of economic development ? Or with the Gandhian meaning of life and living ? Or with the Indian needs and ends in Indian way modernised suitably ? All are open issues and to be explored.

The System of Landholdings in Haryana, Ram Chander, Kurukshetra University. Price Rs. 21.00.

Dr. Ram Chander in his book under review has tried to ascertain how far farm efficiency differentials are explainable in terms of system differentials. Four systems of land holdings have been considered, namely, farmers with own land and family labour ; with partly hired land and own labour ; with hired land and own labour ; and, farmers with own land and hired labour. Also included in the study five modern farms including a cooperative farm. The findings are interesting : "On the whole, however, the higher per acre gross output, per acre cost, per acre net output and input productivity in the modern farms, on the one hand, and the four systems, on the other, are undeniable". And "It is significant that the differences in cost and output as between the four systems are, by and large, small in comparison to similar differences between the four systems as a whole and the modern farms as a whole, and also those as between the individual modern farms themselves". Dr. Chander's work is pioneer in this field of study.

Some Reflections on the Role of Panchayati Raj Bodies in Rural Development in an Andhra Pradesh Block

Arun Kumar Mukhopadhyay*

In Andhra Pradesh, the three-tire system of panchayati raj, i.e. zilla parishad, panchayat samiti and gram panchayat sets a pattern of functional integration of vertical units of local administration. The intention of this hierarchical structure is to involve the people in different types and levels of functions for their own development. They are expected to assess their own felt needs and prepare plans and help the block-level and village-level official functionaries to execute those plans with, in addition to their own financial resources, aid from the governments at State and Central levels. But our investigation into the actual pattern of functioning of the panchayat samiti and gram panchayat, as in Chevella Block in Hydrabad district, shows that the provision of local autonomy or freedom of panchayat bodies to identify their own needs, formulate plans accordingly and participate in the process of implementation of those plans through the block officials was conceptually accepted, but not practically executed. In other words, "the relationship between the state government and panchayati raj bodies is one of superior and subordinate—the autonomy of the latter is limited and subject to controls of various types……. There is a realization of the need to decentralise powers relating to development programmes and involve local leadership in the exercise of these powers in the light of local experience". There is a feeling on the other hand, that "local representative institutions are not ripe for the exercise of authority and that they might tend to misuse them. The natural consequence of this paternalism is to centralize substantial powers at the state level. The marks of this

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*Dy. Director (Economics), National Institute of Rural Development, Hydrabad.

approach are clearly visible in planning, finance and administration of agricultural programmes".[1] It is found that within the budgetary framework and limitations, the Agriculture Department of the State Government formulates plans for agricultural development, sets priorities and targets and finally hands them down to the Block authority for implementation. There would have been no wrong with this bureaucratic way of development administration, had there been no concept of local bodies such as panchayati raj in the present literature of rural developmental administration in India. When it was discovered that the local people are the better judge for their own development and they should be given opportunities to assess their own needs and to express their aspirations through the formulation of plans for their own development and to control their execution, the denial to them of this opportunity vis-a-vis power through the same old bureaucratic process at the block level is a clear deviation from the basic intention of panchayati raj system. The role of panchayat bodies within the present procedures are neither effective nor originally conceived.

That was why, during the Third Plan, it was decided that Plans would be prepared by the panchayat bodies on the basis of local needs and aspirations, and incorporated in the State Plan. But this practice was abandoned. The complete dependence of the panchayat bodies on the government departments for financing the developmental programmes and consequent lack of control over it, has reduced their financial autonomy in terms of both limitation of the budget and the complete lack of right to take any decision on its basis. Consequently, sometimes the departments could not take into account the importance and urgency of the local needs, and sometimes hampered the progress of the work particularly when the release of the state budgetary allocation was delayed and the strict terms and conditions for its expenditure were dictated.

Finally, in respect of administration of agricultural programmes, the block level personnel like BDO, AEOs and VDOs are fully controlled by the respective departments. Since the Plans are actually formulated by the block functionaries on the basis of annual budgetary limits and also implemented by them, through instructions (in the form of

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1. G. Ram Reddy, Panchayati Raj and Rural Development in Andhra Pradesh, India, Rural Development Committee, Centre for International Studies, Cornell University, Ithaca, New York, 1974, p. 81.

2. Ibid. p. 82

(Continued on page 177)

Trends in Components of Agricultural Growth in India : 1950-75

S. K. Mishra and T. N. Datta*

A look into the agricultural statistics of India since the date of launching the first five year plan indicates that strategies formulated for agricultural development have been fruitful to a considerable extent. During the twenty five years of planning period foodgrain production exhibited an encouraging rise as the index of the same increased to 171.58 (base 1949-50=100) in 1975. Production of non-foodgrain crops, however, increased with a still higher rate as the index rose to 202.38 in the terminal year of the period under study.

The growth rate (average annual, arithmetic) in foodgrain production vis-a-vis growth rate in population (2.86 : 210) may be considered as a measure of success in advancement towards the goal of planned development. Increase in non-food crops production contributed significantly to enhance the income of farmers and also to make available a considerable amount of supply of industrial raw materials.

The observed increase in the index of agricultural production has been due to many factors. On account of the increasing need for foodgrains, agro-based industrial raw materials and employment for the rapidly increasing population in the nation the area under cultivation has been expanding ; the change in farming technology, introduction of high yielding varieties and chemical fertilizers, expanding irrigational facilities, etc. have boosted up yield rates of almost all the major crops; improvement in infrastructural facilities, marketing, agricultural extension programmes and spread of education etc. are transforming the institutional framework in favour of market oriented farming. By and large, farmers are gaining interest in choosing crop combinations more contributive to their farm incomes as they are becoming more exposed and sensitive to market forces operating in the economy.

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*The authors are associated with the Department of Architecture and Regional Planning, Indian Institute of Technology, Kharagpur, West Bengal.

Increase in production through increase in area is, however, not far-fetching. It is so, partly due to the fact, that land is limited and only a limited portion thereof can be brought under cultivation, as newly reclaimed land or marginal land may be poor. Changes in yield rate is basically technological, and hence, more promising. As a matter of fact, the future of agricultural development in India is highly dependent on this factor. Nevertheless, a rational choice or decision regarding crop combination policy too may have significant role to play in this sphere. The last factor is more economic and managerial in nature, and requires due consideration in forming agricultural development policy.

A rational study of the past proves quite helpful for planning the future. It is required, therefore, to investigate the role of the above mentioned factors, namely area expansion (physical), increase in yield rate (technological) and changing crop patterns (economic and managerial) in contributing to the total agricultural production during the twenty-five years of planned development in India.

In this context, it may be mentioned that studies on the relative contribution of these factors to total agricultural production have been carried out by a number of scholars. Many studies on national (I) and regional (II) levels have been published. However, these works limit themselves only to a comparative study on two time points. Trends in contribution of different factors over time have scarcely been in light.

The present work is an attempt to study the trend in contribution of the factors (or, say, components) to agricultural production. The period under study is 1950-75. Annual figures of agricultural production, area under different crops, yield rate of different crops, used here, have been compiled from various published sources (III). The study uses All India Average Peak Marketing Period Prices of principal crops for three years ending 1961-62. These prices have been favoured due to two reasons : firstly, because 1961 was rather a normal year and has been popularly used as base year for parametric purposes, and secondly, because, it may help in minimising backward and forward biases of prices (IV) which otherwise may have arisen in the cases if 1950 or the terminal year (1975) prices had been used.

Methodology

Methodology for analysing contribution of different 'components' of agricultural production has been adopted from the pioneering work of B.S. Minhas and A Vaidyanathan (I (a)). The model is basically a decomposition model—as it decomposes the total increment in agricultural production into several portions due to the various components—as factors of agricultural development. A seven component model (IV) has been preferred here. The alternative four component model (I(a)) has not been used as it does not take proper care of interaction components (IV).

It has been conceived that the total increment in agricultural production (price-weighted sum of a production) of various crops may be decomposed into seven components, namely, area component (increment due to changes in area/acreage under cultivation), yield component (increment due to change in yield rate of different crops), cropping pattern or crop combination component (increment due to changes in cropping pattern i.e., relative changes in area under different crops), and four derived components or interaction components (increment due to induced changes on account of variation in the above mentioned three basic components). These four interaction components are (1) Interaction between area and yield (2) Interaction between area and cropping pattern (3) Interaction between yield rate and cropping pattern and (4) Interaction among area yield rate and cropping pattern. As a matter of fact, interaction coefficients are balancing factors in the equation and enter as errors. Smaller they are, the better analysis of contribution of the basic components is attained.

The computational scheme of the model used is as follows:

$$P_t - P_o = (A_t - A_o) \sum_{i=1}^{k} W_i \, Y_{io} \, C_{io}$$

$$+ A_o \sum_{i=1}^{k} W_i \, (Y_{it} - Y_{io}) \, C_{io}$$

$$+ A_o \sum_{i=1}^{k} W_i \, (C_{it} - C_{io}) \, Y_{io}$$

$$+ (A_t - A_o) \sum_{i=1}^{k} W_i (Y_{it} - Y_{io}) \, C_{io}$$

$$+(A_t-A_o)\sum_{i=1}^{k}W_i(C_{it}-C_{io})Y_{io}$$

$$+A_o\sum_{i=1}^{k}W_i\,(Y_{it}-Y_{io})\cdot(C_{it}-C_{io})$$

$$+(A_t-A_o)\sum_{i=1}^{k}W_i\,(Y_{it}-Y_{io})\,(C_{it}-C_{io})$$

where,

P_t and P_o stand for production (price weighted sum of all crops) in the t year, and base year respectively.

A_t and A_o stand for total area under cultivation in the t year and base year respectively. Y_{it} and Y_{io} stand for yield rate of ith crop in the t year and base year respectively.

C_{it} and C_{io} stand for area under ith crop in the t year and base year respectively.

W_i stands for constant price (weight) of ith crop, $i=1,\ldots\ldots k$.

The present work accounts for a study of 28 crops, namely, 1) Rice 2) Jowar 3) Bajra 4) Maize 5) Ragi 6) Small millets 7) Wheat 8) Barley 9) Gram 10) Tur 11) Other Pulses 12) Groundnut 13) Seasamum 14) Mustard 15) Linseed 16) Caster 17) Cotton 18) Jute 19) Mesta 20) Tea 21) Coffee 22) Rubber 23) Sugarcane 24) Tobacco 25) Potato 26) Pepper black 27) Chilly 28) Ginger. The list is exhaustive enough to include almost all crops which may be significant in agricultural development.

To begin with, the components of changes in the agricultural production in 1950 have been computed. Then, components of changes in production in 1961 over 1950 have been analysed. However, afterwards yearwise changes have been studied. With the dawn of 3rd Five Year Plan the development strategy on agricultural sector witnessed an accountable reorientation brought about by technological and economic factors. Hence, it has been decided to study the role of different components, i.e., in the model 1, t=1951. 1956, 1961, 1962, 1963......1974,1975.

Findings

Table (1) presents the findings of our analysis. However, a brief description thereof needs to be presented. It is evident from table (1) that contribution of yield rate in the total increment of agricultural production is increasing over time. For consistent results, we may exclude 1949-50 figures. Afterwards, during 1951-75 the trend is increasing. During 1951-1956 the percentage contribution of yield rate to total agricultural production was 22.2, which rose to 33.4% in 1975. From time to time fluctuations have been observed. They emerge due to irregularities in rainfall and weather conditions in respective years i.e., 1965, 1966 and 1967.

Component of cropping pattern also claims increasing contribution in agricultural production. However, trend is not so marked and it seems that it tends to become constant after 1970.

Area component is losing its dominance over time. While in 1951-56 it contributes as high as 68 percent, it accounts for a sizable decline to 27.8 percent in 1975. Further analysis of our findings reveals that while in 1951-56 area (68 percent) was dominant as a contributor to the total agricultural production and the role of cropping pattern was insignificant, in 1975 role of yield had become predominant (33.4%) and rate of crop pattern had become significant (13%).

Interaction components, which are considered as balancing factors in an analytical model, may also be interpreted in economic terms.

Relative changes in yield rates induce farmers to reallocate area under different crops yielding more returns. However, such a reallocation is rational and economic. More responsible are the farmers to such relative changes in yield rate as more area is allocated to economic crops. As we see in the table (1) Components B_4 which represents induced or concomitant variations in yield rate and cropping pattern turned positive (7%) in 1967 and onward though they were negative during 1950-66. It shows that after 1966 cropping pattern has positively responded to increasing yield rates. On the part of the farmers it indicates that their behaviour has been rational and market oriented. Also the trend in B_4 is increasing.

Other interaction components require a more intensive study for an explanation of their behaviour. Howeve, their increasing trends indicate that response of acreage under cultivation has been positive to yield rate and cropping pattern. Perhaps, extension of area under cultivation has been accompanied by better allocation of land leading to replacement of low yield crops by high yield crops. Newly reclaimed areas have been cultivated with relatively coarse crops—while areas traditionally cultivated have gained in coverage of high yielding crops.

However, interpretation of interaction components is not beyond debate. It is to be noted that an account of changes in (relative) yield rates as a stimulant to changes in crop pattern is not sufficient and exhaustive. Changes in relative prices too have very significant role to play. They may cancel out, abate, or multiply the response of cropping pattern depending on their strength and direction in comparison to changes in yield rates. The model used here does not consider changes in relative prices. It is needed, therefore, to incorporate prices, and changes therein relative to some numeraire, may it be prices of rice, or of wheat or of the like.

Acknowledgement

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References

I. (a) B. S. Minhas and A. Vaidyanthan, 'Growth of Crop Output in India : 1951-54 to 1958-61, An Analysis of Component Elements', Journal of Indian Society of Agricultural Statistics, Vol. XVII, No.2, 1965.

(b) George Blyn, 'Measurement of Growth Rates in Agriculture'. Indian Journal of Agricultural Economics, Vol. XXII, No. 1, 1967.

(c) Ram Dayal and Radhey Shian, 'Measurements of Growth Rate of Agricultural Production', Agricultural Situation in India, Vol. VII, No.4, 1963.

(d) S. A. Shetty, 'Agricultural Production Trends and Components' Indian Journal of Agricultural Economics, Vol, XXV, No. 2, 1970.

(e) V. G. Panse and V. S. Menon, 'Index Numbers of Agricultural Production in India,' Indian Journal of Agricultural Economics, Vol, XVI, No.2. 1961.

II. (a) Ashok Paraikh, 'Statewise Growth Rate in Agricultural Output—An Econometric Analysis', Artha Vijanana, Vol.VIII, No. 1, 1966.

Table 1

Trends in Components of Agricultural Growth in India (Base Year 1949-50)

Years (Base= 1949-50	Component of area on acreage	Component of yield rate	Component of pattern	Interaction component crop pattern and yield rate	Interaction component area and crop pattern	Interaction component yield rate and area	Interaction component yield rate and crop pattern	Total increment in production
	B_1	B_2	B_3	B_4	B_5	B_6	B_7	P
1949-51	73.03	43.69	—16.67	—3.78	—2.30	6.55	—0.52	100
1949-56	67.99	24.90	5.71	—5.40	1 26	6.72	—1.20	100
1949-61	59.32	26.55	9.54	—3.72	2.16	6.89	—0.84	100
1949-62	67.45	26.11	3.37	—5.28	0.96	8.89	—1.50	100
1949-63	61.17	27.13	6.08	—3.84	1.73	8.82	—1.09	100
1949-64	62.80	21.84	10.00	—4.30	3.03	7.93	—1.30	100
1949-65	49.66	30.99	8.84	—1.87	2.75	10 22	—0 59	100
1949-66	51.75	19.65	11.12	—0.86	5.44	6.12	—0.26	100
1949-67	47.17	22.95	17.56	0.41	5.16	6.12	0.12	100
1949-68	44.40	29.00	18.12	0.74	4.05	9.45	0.25	100
1949-69	34.92	31.21	16.52	3.48	4.80	8.06	1.01	100
1949-70	39.37	28.63	14.26	3.13	4.86	8.69	1.07	100
1949-71	30.00	36.93	11.06	4.56	4.02	11.71	1.66	100
1949-72	32.82	32.55	12.89	5.03	4.74	10.12	1.85	100
1949-73	28.43	33.13	15.14	7.35	5.01	8.52	2.43	100
1949-74	31.25	31.88	12.08	6.00	5.16	11.06	2.57	100
1949-75	27.77	33.41	13.03	7.29	5.19	10.41	2.91	100

N. B. (i) Total may not be equal to 100.0 due to reducing off. (ii) All figures are in percentage.

(b) M. N. Pal and S. K. Maity, 'Components of Agricultural Growth by Districts of West Bengal', Indian Journal of Regional Science, Vol. VII, No. 1, 1976.

(c) Rajkrishna, 'Growth of Aggregate Output in Punjab,' Indian Economic Journal, Vol, XII, No. 1, 1964.

(d) S. K. Misra, T. K. Mahanti and C. R. Pathak, 'Micro Level Planning for Agricultural Development : A Case Study of East Champaran District, Bihar', Indian Journal of Regional Science, Vol. X, No. 1, 1978.

III. (a) 'All India Index Numbers of Area Under Crops, Agricultural Production and Productivity 1949-50 to 1970-71', Agricultural Situation in India, Vol. XXVI, No. 8, 1971.

(b) 'All India Index Numbers of Area Under Crops, Agricultural Production and Yield, 1959-60 to 1974-75', Agricultural Situation in India, Vol. XXX, No. 11, 1976.

IV. B. S. Minhas, 'Rapporteur's Report on Measurement of Agricultural Growth', Indian Journal of Agricultural Economics, Vol. XXI, 1976.

State-wise Number of Units effecting Retrenchment and Workers Retrenched during December, 1978

Sl. No. 1	State/Union Territory 2	No. of units 3	No. of workers 4
1	Andhra Pradesh	2 (1)	3 (1)
2	Gujarat	4	42
3	Haryana	1	19
4	Madhya Pradesh	1	5
5	Maharashtra	12	187
6	Punjab	1	1
7	Uttar Pradesh	3	88
8	West Bengal	5	177
9	Delhi	2	7
	Total state sphere	31	529

Source : Indian Labour Review.

A Comparison of Economic and Financial Efficiency on Different Sized Farms

Rachhpal Singh and W. S. Brar*

In farm economics studies in the past much emphasis had been laid on categorizing farm holdings on the basis of their sizes. It was mainly because of the different economic and financial behaviour. But the so-called new technology of seeds and fertilizers has become sufficiently old to allow all sized farms to fully own it. Keeping this in view it could be thought that differences in economic and financial efficiency among different farm sizes must have undergone a change at this stage of development. This study was thus taken up to examine the effect of farm size on various indicators of economic and financial efficiency. The indicators of economic efficiency considered were area under major crops, their productivity and the cropping intensity. The important indicators of financial efficiency taken were variable expenses and returns to fixed farm resources. The results of this study pertained only to the crops grown on sample farms and such enterprises as dairying and poultry were not included.

The specific objectives of study were :

i) to examine the economic and financial efficiency on different sized farms ;

ii) to test the significance of various indicators of economic and financial efficiency within the size groups.

Sampling Farm

The study is based on the data from a major project, "Economic Potentials of Grain Production in Punjab" for the year 1976-77 carried out by the Department of Economics and Sociology, Punjab Agricultural University, Ludhiana. Fourteen farmers were randomly

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*Assistant Farm Economist and Research Associate, respectively, Department of Economics & Sociology, P. A. U., Ludhiana, Punjab.

selected from each farm group of small, medium and large farms from paddy region of Amritsar district of Punjab State. Three synthetic farm situations on the basis of farm size i.e. small, medium and large sized farms were developed, whose average size came to be 2.92, 6.26 and 13.47 hectares respectively.

Analysis of variance technique was used to test the significance of differences in the selected indicators of efficiency due to size groups and t-test was applied.

Results and Discussion

Values of selected indicators of econonomic and financial efficiency in case of small, medium and large farms are given in table-1

Table 1 : Values of Selected Indicators of Economic and Financial Efficiency on Small, Medium and Large farms

Srl. No.	Indicators	Small Farms	Medium Farms	Large Farms	Average
I	Economic Indicators				
	(a) Yield of Wheat (Quintals per hect.)	25.74	25.69	26.40	26.12
	(b) Yield of Paddy (Qts./hect.)	47.28	47.08	47.05	47.08
	(c) Area under wheat (%age of operational area)	75.90	80.23	80.93	80.88
	(d) Area under Paddy (%age of operational area)	49.93	56.05		
	(e) Cropping Intensity	181.85	193.61	183.17	186.27
II	Financial Indicators				
	(a) Returns to fixed farm resources				
	Per farm (Rs)	11097.04	23360.28	45512.82	26990.04
	Per hect (Rs)	3774.88	3719.08	3419.02	0574.84
	(b) Variable Expenses				
	Per farm (Rs)	4188.22	10910.04	22471.97	12523.41
	Per hect (Rs)	1390.41	1692.41	1672.04	1658.70

It was seen that yield of wheat and paddy established no relationship with farm size. The yield of wheat (per hectare) was highest on large farms and ranged from 25.24 to 26.40 quintals. In case of paddy the yield per hectare ranged from 47.05 to 47.25 quintals, the highest being on small farms. The area under wheat as percentage of the cultivated area showed an increase with the increase in farm size. This percentage of area under paddy did not show an obvious relationship with the size of holding. The cropping intensity was the highest (193.61 per cent) on medium farms as compared to that on large and small farms.

Returns to fixed farm resources per hectare decreased with the increase in farm size. Variable expenses per hectare were the lowest (Rs. 1390.41) on small farms as compared to those on medium and large farms.

Variance ratios given in table-2 for small, medium and large farms showed that the differences for various indicators among different sizes were non-significant even at 5 per cent of significance.

Table-2 : Variance Ratios for Selected Indicators of Economic and Financial Efficiency on Small, Medium and Large Farms.

Srl. No.	Indicators	Variance Ratios for Different Farm Sizes
I.	Economic Indicators	
(a)	Yield of wheat	0.15
(b)	Yield of Paddy	0.00
(c)	Area under Wheat	0.69
(d)	Area under Paddy	1·05
(e)	Cropping Intensity	0·79
II	Financial Indicators	
(a)	Returns to fixed farm resources	0·71
(b)	Variable Expenses	1·81

N. B. None of the indicators were significant at 5% level of significance.

However, the highest F-ratios 1.81 and 1.05 were in case of variable expenses and area under paddy but zero and 0·15 in case of yield of paddy and wheat respectively.

In order to test the significance of differences between various size-groups, the Student's t-test was applied. The calculated t-values are given in table-3.

It was seen that all the indicators were non-significant even at 10% level of significance. However, the variable expenses were significant at 10% level of significance between small and medium farms only.

Therefore, the foregoing analysis amply shows that the differences in economic and financial efficiency on different sized crop-farms are negligible in this region. The hypothesis of inverse relationship of farm size with productivity and farm income is not acceptable here. In other words it indicated that different sized farms were showing identical economic and financial results.

Table-3 : Significance of Various Indicators of Economic and Financial Efficiency within Farm Size groups (Small, Medium and Large Farms)

Sr. No.	Indicators	T-Values		
		S.VSM	M.VSL	S.VSL
I	Economic Indicators			
(a)	Yield of Wheat	0.03	0·50	0·47
(b)	Yield of Paddy	0·06	0·01	0·07
(c)	Area under Wheat (%age of operational area)	0·95	0·15	1·11
(d)	Area under Paddy (%age of operational area)	1.40	0.28	1.12
(e)	Cropping Intensity	1·26	0.84	0·43
II	Financial Indicators			
(a)	Returns to fixed farm resources	0·18	0·96	1·14
(b)	Variable Expenses	1·74*	0·12	1·62

* Significant at 10% level of sigficance.

N.B. All other indicators were non-significant even at 10% level of significance.

Employment Generation in West Bengal—Towards A Prescriptive Approach

Alok K. Bhaumik*

The present paper is divided into three parts. Part I highlights some aspects of the realities of the situation of unemployment and employment in West Bengal. Part II attempts a diagnosis of the situation taking cues from what has been said in Part I. Part III aims at developing a policy-mix in relation to generation of more employment opportunities in West Bengal.

I

1. Demographic and Manpower Trends

The population of West Bengal was reported as 444 lakhs in April 1971 by the census,[1] growing at the rate of a little less than 25 per cent during the last decade. Assuming current population growth rate as 2.5 per cent annually, current West Bengal population is estimated as about 515 lakhs.

In keeping with the 28.4 per cent worker rate reported by the census[1], there should be about 146 lakhs of workers in West Bengal now. For every 100 persons working, about 30-35 persons are currently unemployed in West Bengal.

The working population base reported by the census included a significant proportion of unemployed, from this and other considerations, the incidence of unemployment in West Bengal works out to some 25 per cent of the labour force. It may be noted that such high levels of unemployment are among the worst reported anywhere in the world, and not characteristic of countries with about 60 per cent of

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* Department of Economics, Rabindra Bharati University, Calcutta.

[1] The census concept of 'employment' or labour-force participation has, however, many shortcomings and it would be ideal if one could look at the employment picture by following the way in which Amartya Sen has defined the concept. See, Amartya Sen—Employment, Technology and Development, pp. 5-10.

of the labour force in agriculture and about 75 per cent of the population still rural.

2. West Bengal's Dual Economy[2]

West Bengal's economic structure, like that of India, exhibits important features of both social and technological dualism. More than 16 per cent of the total population of the State lives in the Calcutta urban agglomeration. The percentage goes above 18 if the Asansol agglomeration, the Durgapur notified area of the Burdwan municipalites are added. The four districts of 24-Parganas, Howrah, Hooghly and Burdwan, together with Calcutta, comprise as much as half of the total population of the State.

Most of the social overheads [universities, technical training and other institutes, best schools, hospital beds and other social services] are located in this 'metro-pole'. The capital invested, labour employed and trade transacted are all very much larger in the Calcutta area than elsewhere. It may be safe to estimate that Calcutta and the four neighbouring districts produce more than 40 per cent of the gross domestic product of the State.

These are districts in which there is not a single large industrial establishment and the small industries listed officially are not always really or effectively functioning. There has not been a secondary urban system beyond the Calcutta-Asansol-Durgapur area.

At present all commercial banks operating in the Sate are Calcutta based. About 45 per cent of the bank offices in West Bengal are in the Calcutta city and if one adds the four neighbouring districts, the percentage rises to above 80. Moreover, branches which are officially listed as "rural" are often located just outside urban boundaries or at places which are only technically rural.

The five districts of Calcutta, 24-Parganas, Howrah, Hooghly and Burdwan account for nearly 95 percent of the total bank-credit. The picture of disparity between the 'centre' and the vast 'periphery' becomes more telling if one takes the district-wise data for different lines of production assisted by commercial banks, especially agriculture and small scale industry.

3. Relative Growth of the Three Sectors

In West Bengal, the share of the secondary and primary sectors taken together has gone down from 66.14 percent in 1960-61 to about

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[2] This section is largely based on an article by Dr. Bhabatosh Datta in the Economic Times (Special Supplement), Nov. 3, 1976.

60 percent in 1975-76. If we take manufacturing industries and agriculture only, the picture is rather dismal. The manufacturing sector's output did have a 24.95 percent share of the NSDP in 1960-61 but in 1975-76 it declined to about 20 percent whereas that of agriculture declined from 34.34 percent to about 31 percent.

All this suggests that whatever growth has taken place in West Bengal between 1960-61 and 1975-76 has been accounted for mainly by the growth of the tertiary sector. In fact, the entire productive sector (primary and secondary combined) could not match up to the progress of the tertiary sector and hence its share in the NSDP went down.

Such a situation may not be unwelcome for a short period but the perpetuation of this trend spells danger as it is tantamount to the reduction of the productive surplus of the State.

In fact, a look at the employment data shows a high degree of correlation between employment in organized manufacturing and the trade sector.[3]

$$E_{td}=2.6+1.6_{mf}/R^2=0.68$$

(Where E_{td}=employment in trading sector and E_{mf}=employment in organized manufacturing).

This means every worker in the manufacturing sector has to bear the burden of a 1.6 tertiary employment.

Notwithstanding the progress of the tertiary sector the rate of growth of per capita real income of the State with respect to the all-India level has gone down.

II

The Diagnosis

1. West Bengal's ills in general and those in the employment front can be diagonised in terms of the very many structural rigidities and imbalances that have grown up and perpetuated as a result of misdirected and sometimes, indifferent economic management/mismanagement of the State.

The basic diagnosis should, however, follow from section 1.2 above, —the pronounced dual character of the West Bengal economy and the attendant 'backwash effects' leading to stagnation, decay and dehumanization in the vast 'periphery'.

The spread effects (including the employment-effect) of any economic activity in favour of the hinterland can originate from backward or forward linkages which the hinterland has with the leading city-economics. In the case of West Bengal, it can be clearly shown that both these linkages have been very weak due to (A) the nature of commodities produced in the modern sector, (B) the outside origin and ownership of the capital and resource materials, (C) concentration of high-income groups in some 5 urban settlements only, (D) the inappropriate education and skill pattern of the people in the hinterland, (E) the given distribution of income[4] and the very low purchasing power in the hinterland, (F) out-migration of potentially enterprising people from rural and semi-urban areas of West Bengal.

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[3] See article by Deepak Chawla and Siddhartha Roy in The Economic Times, 9. 9. 1977.

For a long time past, these and other factors have developed a strong 'urban-pull' and an equally strong 'rural push' resulting in a situation of exploding 'urban over-unemployment"[5] (and also a swelling army of Lumpen proletariates).

In this context, the relatively higher rate of growth of tertiary sector employment in West Bengal should not be misunderstood as a sign of economic health of the State. It is rather the symptom of a deeper malady.

2. It can be shown that, over a good part of the planning period, several aspects of the Governmental fiscal policy (specially those relating to the Corporate Tax policy), industrial licensing and investment policies and certain direct administrative measures have systematically developed a situation where both the factor-mix and the output-mix discourage the employment of more labour. In fact, the available data indicate to a long-established trend of declining labour-intensity in West-Bengal's organized manufacturing sector.[6] We consider that most of the often-talked constrlants in larger employment generation in this State (e.g. lack of capital and infrastructure, irrelevant education and training, inappropriate institutions, organizations and attitudes, etc.) are the outcome of the deepening structural dualism in the States' economy and its very many inevitable manifestations.

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[4] Among the States which have a high inequality in the size-distribution of personal incomes, West Bengal probably comes near the top and the situation is even worse when the disparity refers to "real" levels of living.—See Moni Mukherjee—"On Concentration of Income in West Bengal" in Econ-6.

[5] This term has been coined by Paul Bairach in his book 'Urban Unemployment in Developing Countries' (ILO, Geneva, 1976).

[6] See Anand P. Gupta—'Fiscal Policy for Employment Generation in India', (Tata McGraw-Hill, 1977).

III

1. Need for an Appropriate Conceptual Framework[7]

At a macro-level economic action-programmes can never be meaningfully formulated and pursued if they are not based on an appropriate conceptual framework.

There has been practically no attempt in this State, on the part of the official economists, to approach the problem of employment planning in a 'scientific' manner. The concept of employment is notoriously vague in any economy in which the wage system is weak and in which 'self-employment' and 'unpaid family labour' are common.[8] In an economy such as West Bengal's, where peasants and artisans dominate, the concept of employment loses its straightforward meaning and economic activity merges into a wider complex of family-based activities.

In any meaningful attempt to formulate an effective employment planning strategy, the job-seeker cannot be treated as homogeneous number and must be properly categorised. Similarly, we must also categorise job-types. As Amartya Sen sees it, "We can think of employment not as a number but as a vector, i.e., as a set of numbers giving employment of each kind of labour."[9] Suppose, if there are 'A' types of labourers and 'B' types of jobs,—we can represent the manpower allocation pattern as an (A×B) order matrix. Obviously then, any category of workers may be divided into three classes. In the first group are those with appropriate jobs, in the second group those with inadequate jobs and finally those who are formally unemployed.

Obviously, the goal value is to set the number of workers in categories (2) and (3) equal to zero. In other words, we wish to match the skill pattern of the labour force to the structure of job demand in such a way that each job is suitably filled and each worker finds suitable employment. We are to select a reasonable time period of 'T' years, for achieving this long term target. In each sub-period, however, there is a subsidiary goal. This is to substitute inadequate employment for formal unemployment.

Since the long-term plan defines the size of productive employment in each period, it also defines the total supply of wage-goods.

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[7] For some of the ideas in this section, I am indebted to Amritananda Das's article—'Foundations of Employment Planning' (in Econ-5).

[8] See Reddaway, W. B.—The Development of the Indian Economy. (Allen and Unwin, London, 1962,). pp. 24-25.

[9] See Sen Amartya—op. cit, p. 10.

Thus if subsidiary jobs have to be created, this will involve a reallocation of the available wage funds among a larger number of workers and this will imply a sacrifice on the part of each employed worker.

Clearly, there are three major policy choices. First, there is a question of choosing 'T'. This will have to be guided by the political feasibility of altering the size and structure of the work-force in a desired direction. Secondly, having chosen 'T', we may choose a target path which progresses faster at an earlier stage and a path which quickly makes up ground at a later stage, A choice of the first type path will involve a greater use of labour intensive technology, whereas an accumulation oriented path will be in the second type.

Having chosen the target path, we will have to determine how much subsidiary employment we require. On a first-type path, the requirement will be less at earlier stages. For a second type path this requirement will be much larger at the earlier stages but small at later stages.

2. Need for An "Appropriate Technology" Profile

This brings us to the all important question of the desirable technology-profile at different levels of economic activity in this State. Without going into the technical niceties of the 'capital-intensive versus labour-intensive debate, we can assert that one must take a wider view of the technological problem. The task of choice of techniques in a society can never be meaningfully approached independently of the resource-endowment pattern, the production-relations and the modes of production in that society. A close look at the origin and evolution of particular techniques the world over will convince one of the fact that a particular techniques is the product of given circumstances and 'conditions.'[10] Due to vast differences in 'initial-conditions' the western paradigm in this connection is grossly irrelevant in our situation. We admit that science and technology are universal but that only with respect to the basic principles. The same basic principles may be embodied in different techniques (in the same line of production) in two different countries, say, the U, S. A. and China.

Our major point in this connection is that let us disbelieve in technological possibilities as 'given' and deliberately try to develop an array of "appropriate" or "intermediate" techniques in different lines of activities. Following the principle of what the Chinese call 'walking on two legs,' we must develop a balanced spectrum of techniques of production as well as of economic activities. Such 'planned technological dualism' at this stage of West Bengal's development would attain three goals. (i) a high rate of industrialization (ii) creation of high-technology industries close behind or on a par with those of the West and (iii) full utilization of manpower resources.[11]

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[10] See, Nordhaus, W. D.—'Invention, Growth and Welfare' (1969); Habakkuk, H. J.—'American and British Technology in the 19th Century' (1962); Singer, C. et. al.—'A History of Technology' (in 6 volumes)—(Oxford, 1958).

The West Bengal government will have to play the required role in this connection by (i) proper manipulation of fiscal, monetary and direct measures under its control, (ii) motivating and directing the scientific, technical and social-science research institutions and universities in this State to undertake priority research in developing appropriate techniques and 'indigenizing' the existing techniques.

We appreciate that a particular State like West Bengal cannot do much in this regard. This is basically a national issue.

3. Fiscal Policy as a Major Instrument for Employment Generation

It has been pointed out above that over the years average labour-intensity of the private corporate sector in West Bengal has declined. In fact, industries with lower-than-average labour intensity have enjoyed considerably larger relief in tax incidence than industries with higher-than-average labour intensity. Total reduction in tax incidence of industries with lower-than average labour intensity works out to about four times the reduction in tax incidence relevant to industries with higher-than-average labour intensity. This means that the corporation tax policy has tended to induce distortions which have favoured the employment of capital, with the result that the labour-intensity of industrial output has suffered a decline. A situation of this kind cannot be allowed to continue.

Fiscal measures which can be expected to change this situation and favour pro-labour factor-mix include :

(a) Complete withdrawal of all fiscal incentives related to the employment of capital.

(b) Complete disallowance of interest as expenditure for tax purposes,

(c) Substantial reduction in the incidence of corporation tax on industries producing goods of mass consumption, and

(d) reduction in the incidence of excise duty and other indirect taxes on these goods.

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11. See Article by Suzanne Paine in EPW/Special Number, Aug. '76.

Among the other fiscal ideas which the Government should also consider are :

(a) grant of tax-relief related to the number of workers employed or to the amount of wages paid,

(b) grant of tax benefit in such a manner that it varies directly with the ratio of wages to value of plant and machinery, and

(c) grant of tax rebate related to the amount of tax payable in respect of income derived from a labour-oriented industrial unit newly set up in this State after a specified date.[12] To do all this, West Bengal must press for greater fiscal Autonomy.

4. Labour Absorption in the Agricultural Sector

There are good reasons to believe that with proper institutional changes labour utilization in West Bengal's agrarian sector can be increased several times.

The intensity of labour-input even in the irrigated areas of West Bengal is only a fraction of what it was in Japan before agricultural mechanization in mid-1950 (e. g. less than 100-mandays per acre per annum in West Bengal compared to 600 mandays in Japan).[13] In parts of China, such as in the area of the famous Tachai Brigade, it is estimated to have touched over 1000 mandays, even though it is not irrigated land in the sense normally understood.

In this connection, we may take note of the tremendous employment-implications of the Comprehensive Area Development Programme —being pursued for some time in this State.[14] If the State Government really cannot socialize the means of production within the existing framework of things, then, in our opinion, CADP fairly deserves a sincere and serious trial.

5. A Separate Department for Employment

In view of the tremendous impotance of the Employment variables in West Bengal's economy, we plead for a separate Ministry or a Department of Employment for constantly studying, implementing

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12. For further analysis of the role of fiscal policy see, A. P. Gupta—Op. cit.

13. Shigeru Ishikawa—"Economic Development in Asian Perspective"—Chapter 3.

14. For details of the employment implications of CADP see—"Comprehensive Area Development Programme—A New Strategy for Development"—State Planning Board, Government of West Bengal, pp. 34-35. See also four Articles by Tapan Ghosh in The Economic Times, 23.3.77 to 26. 3. '77.

and monitoring all matters relating to employment generation. The employment sector will deal, in particular, with ways and means of creating supplemental employment beyond the requirements of the otherwise close development plan.

There is need to enunciate in clear terms a State Employment Policy.

The proposed Employment Sector will establish an independent Institute for dealing exclusively with the employment problem of the State.

In our view the work-programme of this Institute could be as follows :

(a) to design and implement a system of monitoring industry-wise and region-wise trends in effective employment in the organized sector ;

(b) to undertake and sponsor industry-wise studies aimed at identifying the industrial processes having potential for labour-capital substitution and to suggest measures for realising such potential ;

(c) to undertake a survey of public policy measures having the effect of discouraging the use of labour and to suggest remedial measures ;

(d) to recommend public policy measures to encourage the adoption of "appropriate technologies" ;

(e) to suggest programmes designed to (i) strengthen the economic viability of the activities of the self-employeds (e.g. small farmers and artisans), and (ii) build up an effective movement for promoting the interests of the working poor ; and

(f) to identify activities which can be expected to generate productive work for the rural unemployeds (this is to be done at a very micro-level keeping in view the local resource base and local needs).

6. Linking Training with Production

We suggest that a large number of Special Centers for training should be set up in close association with all the large industries in the State. The existing vocational institutions in the state should be classified under different heads and should cater for certain specific industries like jute, tea, coal, engineering, tobacco, etc. Such classified training centres will work in close conjunction with their respective industries. The training programmes will be formulated in conjunction with the industries and the industries will be invited to supervise the training programme at each and every stage. The training centres may even receive support from the industries themselves.

These then are just some of our ideas relating to creation of more jobs in the state. In addition to these structural measures, there is an urgent need to undertake a series of very pragmatic short-term measures (e.g. creating in each Block and Municipality at least two posts of coaches for each major game and some sports organizers).

We recommend that the Government should arrange for *inviting public suggestions* regarding the means to create such supplementary employment opportunities in this state.

Through a series of hard measures, the state government must aim at reducing the extreme inequalities in private consumption levels in this state. It has been estimated that the rate of growth in employment with reduction in consumption inequality (from a Gini-ratio of 0.32 to a Gini-ratio of about 0.20 over a period of five years) works out to at least about 15 per cent higher than that without reduction in inequality.[15]

7. Need for Change in Bengalee Attitude Towards Work

While there is clear need to carefully sort out a policy for ensuring that the 'sons of the soil' get most of the new jobs in the state (this will be in keeping with the recommendations of the National Integration Council) there is urgent need for some heart-searching on the part of the Bengalees themselves.

We consider that the Bengalees will have to change their attitude towards work, employment and enterprise.

Available data indicate that the major concentration of 'outsiders' in West Bengal's employment structure is in (i) unskilled manual occupations, (ii) skilled manual occupations, and (iii) trading activities —the percentage ranging between 50% and 75%.[16] Apart from the Centre's step-motherly attitude in the past,—all this is a product of past indifference and the Bengalee objection with secure employment instead of private enterprise.

15. See A. P. Gupta—Op. cit. pp. 102-3.
17. See Article by Samir Dasgupta in Econ.-6.

A Note on Quantitative Technique for Using National and Regional Input-Output Tables to Individual Firm

Suresh Deman*

1.1 The basic purpose of this study is to attempt a quantitative analysis of the inter-industrial flow matrix to appreciate its use to individual firms in comparatively under developed regions of a country. Hardly any such study has been undertaken by the regional scientists, where inter-industry studies have become of immediate use to business firms. Though the national income and product accounts form the basis for many firms forecasts.

1.2 As a background to this study, a critical survey of the literature on above problem will be made. Such a study will not only focus attention on the effects felt by an individual firm, but may also provide us with the necessary socio-economic framework for formulating fruitful grass root plans for various firms.

2.1 In an inter-industry flow structure the data requirements for study are very few. Data are required no matter how disaggregated the sectoring. Any sector is still an industry average, for locating sales from industries to final demand vectors and to other industry groups. Since for large number of industries such data are not available in any neat package, they have to be generated. In so far as sectoring is done on the basis of the assumption that there is the similarity of input requirements, there is no reason to believe as to why output distribution will be similar. It is the output side which is of greatest interest to the firms.

2.2 The basic assumption underlying the data generation is that firms know the destination of their imports, specially where regional breakdowns are required. In other words, in terms of input output flows,

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* Lecturer, Department of Economics, University of Rajasthan.

information for the 'rows' is easier to obtain than the infromation for "columns". The reason for this is that the basket of inputs is usuallly varied and complex. Their origins are indeed very difficult. Even for firm involved in production, it is a problem to locate them accurately. However, the firms are particularly keen to know as to whom to sell their output. This asymmetry becomes most obvious when the final demand sector is considered.

2.3 It is easier to ask firms, what they sell to consumers than to trace back the industrial source of consumers' purchases. The same holds true for the other final demand vectors.

2.4 The traditional use of input-output tables at national and regional levels is usually cast in terms of "the industry of which you are a part" approach. For example, Goldman, Marimont and Vaccara suggest that "(In) evaluating an individual firm's sales potential......a businessman can compare his company's marketing position with that of the industry as a whole and note possible areas of additional market potential."[1] The firms can make out in addition the implications of the usual impact analyzed by input-output studies on the industry of which it is a part. But to the extent that an individual firm deviates from its industry's average, "the industry of which it is a part" approach is less than satisfactory.

3.1 In the present note on the quantitative techniques for using national and regional input-output tables to individual firms, an attempt will be made to eliminate the above problem by constructing a separate row for firm's sales of output to different sectors of the economy. In this way a firm can better use inter-industry tables by becoming a part of the entire input-output system available. This could be done under the following assumptions :

a) The size of the firm should be very small as compared to the industry of which it is a part so that the proportion of the firm's product is small as compared to the sector as a whole ;

b) The sector to which the firm belongs should have a large number of such firms producing identical products to get rid of presence of monopolies and oligopolies ;

c) In this study the input side is completely ignored meaning thereby that the firm's impact on the other sector of the economy is irrelevant.

d) The study is made on the basis of short trun technological coefficients which alone remain stable. Obviously, the long run technological coefficients are ruled out.

4.1 The marketing department of a firm can be of a great help in estimating sales for the year in question. The sales to be projected specifically on the basis of input-output tables.

4.2 The total input purchases of each of the industries are given in the national or regional input-output tables as row vectors. Similarly, we can construct a row vector and firm's sales to its own sector and the other sectors of the economy.

4.3 Given the above estimates the firm can create a row of direct co-efficients (vi), showing the amount each industry requires from it per rupee of output (Sji) by the help of the above estimates and the total output (xi) of each of the industries given in the national or regional input-output tables.

4.4 However, if a firm is interested in seeing the inter-regional inter-sectoral impact on it then an inter-regional inter-sectoral Matrix Ar can be obtained by multiplying the input coefficient by the corresponding supply coefficients—

$$aij^{pq} = aij \times s^{pq}$$

Where aij^{pq} is the ith commodity coming from region p, going to region q, used up in the jth sector for production of one unit of the jth commodity.

5.1 Direct co-efficients for firm can be calculated by the help of the under-mentioned procedure: If Sji represents the sales of jth industry to its own sector and the other sectors of the economy xi the gross-output of sth sector of the economy then we define:

$$Vs = \frac{Sji}{Xi} \quad \cdots \quad \cdots \quad \text{(i)}$$

Where Vs represents direct co-efficients for firm's sales.

5.2 To illustrate the model let us construct a hypothetical example in the absence of its wide use by the policy makers. For example, let us consider a firm producing hair oil in the cosmatics industry A, say, it belongs to sector V in the national or a regional economy. Suppose it sells 1000 rupees of output (Sjs) to industry B, say, belonging to sector X in the above table. The gross output Xj_{10} of the industry B, is, say, 100000 rupees of worth. Then for the above mentioned firm, row entry of direct co-efficient under the B industry i.e. sector X, column will be 0.0001. In like manner, all the other row entries of direct co-efficient can be constructed. Row vector (Vj_1, Vj_2, Vj_3—Vjs) shows the direct co-efficients of the firm of the firm's product needed as inputs per rupee of output of its sector.

6.1 The argument for not mentioning anything about the input side is that by and large the input side reveals how the firm affects other sectors. As pointed out earlier input side is ignored in the present note. Since our assumption is that the size of the firm is very small and, therefore, we are not interested in their impact upon others.

6.2 We can also find out for convenience the percentage of (B)'s output tied directly to gross exports and also the percentage which is tied indirectly through other industries. Our hypothetical firm under study is not only interested in the different components of final demand sectors it serves, directly, which it knows, but indirectly through inter-industry linkages. The presumption is that these final demand sectors are subject to different types of market and non market forces.

6.3 Technically, this sort of table is derived by taking each of the final demand vectors in the gross flow table and multiplying them by the $(I-A)^{-1}$ matrix. This multiplication shows for each industry the total output associated with sector for any given final demand vector.

6.5 For the above firm the estimation of percentage of output of B industry to gross-exports, directly and indirectly through other industries, is very simple. Let us consider its 100 rupees sales to the B industry. From the data we can find out the sales tied indirectly through the industry B to gross exports. This same procedure is repeated for every other sector to which the firm sells. The sum of these yields the firm's output indirectly assigned to the gross export sector. Having known its direct sales estimate from firm's data, the total relation to the gross export is known. Repeating this process for the other final demand sectors will assign all of the firm's output directly and indirectly associated to the various components of final demand vectors.

7.1 The whole system will enable us to find out the impact on hypothetical firm of a one rupee change in the final demand for each of the other homogenous industries i.e. sectors. The sum total of these will give us total impact on the firm of a one rupeee change in final demand.

7.2 The basic equational system used in this model is the following. Let A_{nxn} be the technological coefficient matrix. The direct and indirect sales generated in the *i*th sector U_i' for unit level of output can be calculated as

$$U_i = V(I-A)^{-1}\, ei \qquad \cdot\cdot\ \text{(i)}$$

where V_i, the *i*th element of the vector V, gives the direct sales generated in the *i*th sector per unit of (gross) output and ei is a column vector with zero elements except in its *i*th place where it has unity.

7.2 In order to find out impact linkage multiplier of type I, we divide each element of (1) by the corresponding element giving direct impact on firm's sales per unit of output.

Impact linakge multiplier of type

$$I = \frac{U_i}{V_i} \text{ (for the } i\text{th sector)} \quad \cdots(2)$$

7.3 To derive direct, indirect and induced impact on the firm, the input output table may be closed. By taking each of the final demand vectors, household sector etc., in the gross table and firm's sales added as row, we shall have then argumented technology matrix $\overset{*}{A}$ of $(n+1)$ in order. The above procedure is repeated to get the direct, indirect and induced impact generated on firm's sales per unit level of net output.

Type (II) $U_i^* = \overset{*1}{e}_{n+1}\, (I-\overset{*}{A})\, \overset{*}{e}_i$ (e^* is arguments vector) two multipliers are similarly obtained by dividing each element of equation (giving direct indirect and induced impact per unit of output) by the corresponding elements giving direct impact generated per unit of output

$$\text{Impact linkage multiplier of type II} = \frac{U_1^*}{V_1} \qquad \cdot\cdot\ (3)$$

7.4 It should be borne in mind that in the United States inter-industry model, they have not calculated a new $(I-\overset{*}{A})^{-1}$ matrix with the firm added as a row. This has been treated as true even the firm's output constitutes a large part of the industry's total. It is believed that all that matter is that the firm constitutes a small portion of the total economy.

8.1 Keeping all the constraints in view the use of input-output analysis still applies. But this type of analysis is particularly not useful for the firms, whose markets are obvious, e.g. retailer's sales to consumers etc. For many firms which require only a distribution of the firm's sales to other sectors and a desk calculator can provide a firm the equivalent of entering itself in the national or regional input output tables.

References :

1. Morris R. Goldman, Martin L. Marimont, and Beatrice N. Vaccara, "The Inter-Industry Structure of the United States. A report on the 1958 input-output study, "Survey of Current Business (Nov. 1964)".
2. W. Lee Hansen and Charles M. Tiebont, "An Inter-sectoral Flows Analysis of the California Economy", Review of Economics and Statistics, XLV (Nov. 1963) p. 409-418.
3. G. S. Bhalla, Sectoral Income Multipliers in Punjab and India : Anvesak, Dec. 1971 Vol. I, No. 2, p. 210.
4. A Parikh, Inter-firm Variations in Input Costs in the Fertilizer Industry : I, Seminar of the Input-Output Association : Poona, 1965.
5. Y. R. Rao & P. K. Ghosh ; Inter-Firm Comparison of Cost and Profits—Measurement at Plant and National Level : II, Seminar of the Input-Output Association, Poona : 1967.

Taxing the Farm Sector in India

Joginder Singh*, I. S. Chatha* & Tirath Singh**

Ever since the independence the goal of the national plans has been to strive for reduction in the concentration of economic power in the hands of a few individuals. To attain this objective of socialism through democratic means, a proper taxation policy is an important instrument. It is desirable that an equitable taxation on all the sectors be imposed so that productivity of the tax collecting machinery be enhanced, tax evasion by some concerns be minimised and economic parity between different sectors be maintained. The rise in per acre productivity, per capita income in farm sector, rise in prices of agricultural products, rising value of land, heavy public expenditure on agricultural sector, inter sectoral disparity in tax burden are some other arguments commonly put forth in favour of taxing the farm sector. Moreover, subsidising a particular sector in one form or the other ultimately is an injection of inefficiency and parasitism. Cutt estimated that the land revenue as percentage of the total tax revenue in India in 1953-54 was only 8.6% compared to more than 70% in 1939-40. This further declined to 4.1% in 1965-66. This decline in the share of agricultural taxes in the total tax revenue indicates an increasing role of non-farm sector in the growing economy. Therefore, as such, there is little justification of decreasing burden of taxes on agriculture.

Generally, the inter-sectoral equity is referred to be a base of taxing agriculture. However, there are some basic issues which come up with a greater force to, at least, counter-balance the desirability of farm taxation.

The biological nature of agriculture is the cause of high degree of risk and uncertainty in the production and prices coupled with uncertainty in the availability of inputs. Floods, droughts, frost,

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*Assistant Economists, Marketing, Deptt. of Economics and Sociology, Punjab Agricultural University, Ludhiana.

**Assistant Statistician, Deptt. of Economics and Sociology, Punjab Agricultural University, Ludhiana.

hail storms, attack of insect, pests, diseases, etc. are some uncertainties which result in high fluctuations in crop yields. The non-availability of farm inputs like seeds, fertilizers, pesticides, labour, etc. aggravates these fluctuations in production and in turn farm income. The fluctuations in the index of production in industrial and farm sectors in India is presented in table 1. The coefficient of variation for the index number of production in the farm sector from 1961 through 1976 was as much as 33.15% as compared to 21 97% in case of industrial production.

The price level is another important factor to determine the level of farm income. Because of monopsony in farm product market, an individual farmer has no control over price. Because of perishable nature of commodities, the storage cost is very high which is not feasible to practise. Further, the farm products are the basic necessities of life and thus elasticity of demand for products is low. Therefore, even a light rise or fall in the production which is of fluctuating nature is sure to cause violent fluctuations in price. Although the price support programme is a check on it but it exists only in a few important commodities.

Moreover, input prices are also beyond the reach of an individual farmer because of oligopolic form of market. Therefore, there has been rapid increase in their prices in the recent years raising the cost of production in the farm sector.

Uncertainties in the physical output accompanied by fluctuation in prices cause still wide ups and downs in the farm income. Therefore, it is undesirable to compare tax levy with that of other sectors where the degree of risk is not as high.

It is hard to find any rationale in the business concern where there is no reward to the entrepreneur. But because of a variety of factors such as heavy investment in agriculture, lack of alternative opportunites for the farmer, ancestral attachment for the profession, illiteracy, social prestige, etc., a cultivator continues to be in the farming profession.

Agriculture is a complex mixture of inputs of varied nature and different enterprises. Working out the cost of owned factors like farm yard manure, feed and seed produced at the farm, farm family labour, etc.; would lead to severe imputational problem.

The proper maintenance of farm records and accounts is very necessary before tax is levied on farm income. The subsistence nature of farming and farmer being exhausted after a day long labour which he has to do, it is not possible to sit at the desk to complete records and accounts. Moreover, lack of education and training on the part of farmers, complicated nature of agricultural business further restrict him to maintain the records. Therefore, unless proper records are kept, a blanket taxation on the basis of major investment items like farm holding is not desirable because of high variation in quantity and quality of resources on different farms, resulting in high variability in income from farm to farm. Moreover, valuation of land is very serious problem which is certain to make the farm tax unjustifiable.

Further, land may be taken as a basis of taxation. But it is ridiculous to expect high degree of disparity in the size of farm holdings in future because of the Government's effective policy in ceiling of farm holdings. Therefore, taxation on the basis of land as such would be of self-contradictory policy of the Government.

Tax Paying Ability

As will be seen from table 2, even in the progressive states like Punjab where the green revolution was ushered in more than a decade back the return to the farmer as an entrepreneur, on an average, was negative. It was only in unirrigated bullock-operated farms where the share of other factors were relatively low ; per hectare return to management was Rs. 259.45 in 1973-74 and Rs. 30.98 in 1975-76. While in bullock-operated irrigated and tractor-operated farms, the return to management during 1973-74 and 1975-76 came out to negative. Therefore, a case of taxing a sector passing through such a miserable condition is unjustified.

Table 2 : Return to management per hectare in Punjab

(Rs.)

Year	Irrigated	Unirrigated	Tractor of rated farm
1965-66	1.28	−151.15	N. A.
1973-74	−207 51	259.24	−1423.27
1975-76	−0.02	30.98	—494.00

Source : Farm Accounts in Punjab.

Accepting equity as a cannon of taxation, even if the relative taxable capacity is the yard-stick, the burden borne by the farm sector does not appear to be inadequate. Agricultural sector absorbing about 70% of the population shares less than 50% of the national income while relatively much small size of non-agricultural sector sharing the remaining more than 50% of income has a higher ability to bear the tax. Table 3 brings out another important indicator of tax paying ability of the rural and urban sector. The per capita consumer expenditure of urban sector was far higher than that of rural sector in all the states and union territories without any exception in 1973-74. On all-India basis the per capita monthly expenditure of the rural population was only 53.01 while the urban had per capita monthly expenditure of Rs. 70.77.

Further, the estimates of absolute tax burden from 1950-51 to 1968-69 showed wide inter-sectoral differences. The contribution of the farm sector ranged between 5% to 10% and that of non farm sector it varied between 9% and 19% while the compound growth rate in total tax burden was almost equal for the farm sector and non-farm sector. During the first three Five Year Plans, the relative tax burden ratio had always been less than the relative taxable capacity ratio of the farm sector.

Therefore, taxation of agricultural income and wealth afresh is socially undesirable and economically unsound. However, there is need to rationalize the existing tax structure so that principles of intra-sectoral equity, elasticity and productiveness are taken care of.

References

1. Anonymous, "The Changing Pattern of Growth and Inequality between States 1960-61 to 1975-76 : A Comparative Analysis of Assets, Income and Consumer Expenditure by States" *Quarterly Economic Report*, Indian Institute of Public Opinion, Vol. XXIII (3), Jan-March, 1978.
2. Cutt. J. "Taxation and Economic Development in India", Praeger Publishers, New York, 1969.
3. Dwivedi, D. N., "Problems and Prospect of Agricultural Taxation in Uttar Pradesh", People's Publishing House, New Delhi 55, 1973.
4. Economic and Statistical Organization, Punjab, "Farm Accounts in Punjab".
5. I. M. C. Economic Research and Training Foundation, "Taxing of Agriculture in India : A Critical Survey of Agri. Taxes of Land, Income and Wealth" Research Publication Series—8, Indian Merchants' Chamber, Bombay, 1970.
6. Johl, S. S., "Agricultural Taxation in a Developing Economy : A Case of India"; *Indian Journal of Agri. Econs.* XXVII (3), July-September, 1972.

(Countinued on page 183)

The Employment Strategy of the Draft Five Year Plan (1978-1983)—II

AN ASSESSMENT

A. C. Minocha*

18. In the calculations of the PC the rate of growth of employment has been worked out to be higher than the rate of growth of output and rate of value-added. The feasibility and desirability of attempting a faster growth rate in employment than in the growth of output and income can be questioned unless there is drastic redistribution of incomes in favour of the poor and switch-over to labour intensive technology over a wide range of activities, the possibilities of both of which appear to be remote, given the present framework of mixed economy with dominance of private sector. Employment will increase at an annual rate of 5.3% whereas annual growth of value-added has been put at 4.7%. This implies that the aggregate of wages and mixed-incomes of self-employeds plus profits would not be growing as fast as employment so that income earned by each unit of labour in each sector would decline in the target year as compared to the level in the base year. This can be checked only when there is a massive shift in the share of production in each sector away from the organised to the unorganised sector. (Employment—Suresh D. Tendulkar-Seminar—228 August 1978). No substantial changes in cropping pattern have been envisaged in the plan to generate higher rate of employment in agriculture.

"Assuming perfect substitutability between factors of production—i. e by invoking neo-classical production function—one can show a situation in which output expands more than labour. But within a neoclassical framework, assuming fairly general factor augmenting productivity growth, it can be shown that the above situation implies the elasticity of substitution between labour and other factors of production is greater than one. But there is no evidence to support this type of assumption. In fact, whatever little evidence is available confirms the above assumption."*

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* Professor, School of Social Sciences, Bhopal University, Bhopal.

19. The projections of employment in different sectors have been worked out on the basis of inadequate data. The labour co-efficients used for projections are based on information available for the organised sector. One does not know what labour co-efficients have been used for agricultural sector and how far these are representative of the diversified agricultural sector. The technical papers relating to these estimates have not yet been published. The model has not tackled the issue of choice of techniques, has estimated employment generation on the basis of inadequate data and has not adequately linked the relationship between generation of value-added and distribution of purchasing power. Like the previous plans, it is basically a supply model, the type of models which succeeded particularly till the mid-sixties in creating productive capacities but failed to regulate income distribution and also evolve a set of policies to manage demand.

20. Examining the employment generation in the Draft Plan, we find that the rate of growth of employment implicit in the projections is about 8% per annum for unorganised sector and 3 to 3.5% for the organised sector. The main reliance for employment generation has been placed on the unorganised sector. To what extent the targets are feasible ? How can agriculture and small scale and household industries absorb the bulk of the unemployed and under-employed ? These are vital questions to which we try to answer in the subsequent sections of this paper.

21. The new strategy of the DFYP visualised four major shifts, from non-agriculture to agriculture from large-scale to small scale and village industries, from urban centres to rural centres and from the non-poor to the poor. Each of these shifts is intended to contribute to the main objective of the Plan, its main thrust is on employment generation. But the question is who is going to bring about these shifts and with what policy measures and instruments ? Since the means of

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* Planning for employment—a critique of sixth draft plan—R. Radhakrishna and Atul Sharma *EPW-Special No. August—1978*, page 1289.

production are mainly privately owned, it is doubtful whether it would be possible to influence the economic decisions of the dominant private sector. We should not forget that product-mix and technology-mix are largely determined by the pattern of income distribution in the economy, which is the outcome of the mode of production. With highly skewed distribution of income and assets, the pattern of production is bound to be elitist-oriented and technology-capital-intensive. This is the reason as to why we have not succeeded so far in changing the product-mix and technology-mix in the last so many years, although we have been crying hoarse to change the techniques of production in favour of labour intensity. The PC is quite aware of the fact that the consumption of the poor gives support to labour intensive technology when it observes that "every million rupee of consumption transferred from the non-poor to the poor will generate 20.2 additional person years of employment". It is not necessary that shift from non-agriculture to agriculture and from large scale to small-scale industry will automatically bring about a shift from non-poor to the poor. The PC glosses over the fact that the various weaknesses that it has enumerated are all the consequence of the operation of a particular system which is not propelled by the objectives set for each five year plan but by the drive of profit motive and accumulation. The objective of full employment, eradication of poverty and creation of equitable society do not intrude at all into the calculations of those who control the bulk of economy's productive resources, dispose of the largest part of investment and consumption resources and take the major production and consumption decisions. It is only in a fully planned economy that we can influence and direct the economy into desired channels.

22. The current emphasis of employment strategy seems to be on choice of techniques and not on product-mix. The PC has shown preference for the adoption of techniques which have high output-capital ratios as well as labour-capital ratios, known as labour intensive techniques. The PC has selected 8 industries which offer scope for introducing more labour intensive techniques ; sugar, oil crushing, textiles, leather products, rice milling, wood processing, ceramics, light metal fabrication. In a recent study,* the implications of such a

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* I. Z Bhatty—Industrial policy—some points for consideration—*Margin*, Vol. X No., 3, April, 1978.

switch-over have been worked out. It has been estimated that any transfer of sugarcane from the mill sector to khandsari or gur would result in a loss of 3 to 3.5% of the extractable sugar per unit weight of sugarcane because mills yield sugar equal to 9.5% to 10% of sugarcane weight, whereas khandsari yields about 6.5%. To compensate the loss of white crystal sugar by khandsari, we would need an additional 21.5 million tonnes of sugarcane, an increase of 15% in the production of sugarcane without any addition to the production of sugar. In addition to loss of recovery of sugar from sugarcane, a sizeable quantity of molasses scattered in small quantities over a large number of producers would go to waste. Similarly, recovery of oil from oilseeds in ghani is 5% less than in expellers and 7.5% less when solvent extraction is used. To produce the same amount of oil, ghanis would require 22% more oilseeds than solvent extraction and 14% more than expellers. Leather industry is already mostly in the decentralised sector. High cost khadi and handloom is already being subsidised to the extent of 25% of the sale price. Thus it is clear that a shift to more labour intensive techniques would involve a loss in efficiency and output. More important than the choice of techniques is the question of ownership of means of production and surplus generated and the use of this surplus.

23. The DFYP in the opening paragraph makes a statement that a stagnant economy has been modernised but unemployment and poverty are still very high. The Draft admits that there are forces in the system which propel it along different lines. But it has not bothered to locate these forces and suggest how they are to be dealt with. The Plan states, "The pattern of industrial development that has emerged obviously reflects the structure of effective demand which is determined by distribution of incomes". But it has failed to identify the fact as to what determines distribution. The answer is the mode of production, which the PC does not think of changing. Techniques that yield the highest return to the owners of production will be adopted. Private accumulators have no commitment to the national objective of full employment, although they may be aware of it and this can be achieved as a by-product of their desire to accumulate. The growing capital intensity has been financed by financial institutions in the public

sector, and encouraged by our fiscal and monetary policies. In a mixed type of economy where power balance is in the hands of the kulaks and the industrialists, public sector would be geared to the task of meeting the requirements of the private sector and will not lag behind the private sector in supporting a high cost economy. The DFYP is aware of the gross inequalities in both rural and urban sectors but glosses over these facts and tries to remove these inequalities by changing the techniques of production and through decentralisation of production without touching the ownership of means of production. In the present economic system that we are operating—an acquisitive and exploitative economy—how can the PC determine the product-mix, the technology-mix, the cropping pattern or any other objective when it has no control over the use of resources. A system of incentives and dis-incentives will not succeed to achieve the desired results.

24. Since the mid-sixties, there has been a deceleration of industrial growth and a structural retrogression in Indian economy.* The deceleration of industrial production is generally attributed to the poor performance of agriculture and decline in investment. Between 1951 and 1965 industrial production increased at an average rate of 7.7% per annum whereas this rate dropped to 3.6% per annum during 1965-1975. Even improved performance of agriculture may not ensure industrial growth as with skewed distribution of incomes, bulk of incomes would accrue to landlords and the rich farmers. Unless incomes accrue to the poor, the demand for industrial goods cannot revive. The impressive growth in industrial output till 1965 was due to the process of import substitution which provided transient stimulus and the boost from public investment. A satisfactory explanation of stagnation cannot afford to neglect the relationship between income distribution, the demand factor and industrial growth. In an economy where bulk of consumption, production and investment decisions are made through the market mechanism, it is income distribution which determines the pattern of consumer

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* Industrial development in India : some reflections on growth and stagnation—Deepak Nayyar-EPW-Vol. XII August 1978, pp. 1265-1278 ; S.L. Shetty : Structural retrogression in Indian Economy Since the Mid-Sixties-EPW-Feb., 78.

expenditure as well as demand and hence the composition of industrial output. The government cannot exercise effective control over allocation of resources between consumption and savings, essential and non-essential consumption. The NSS data have revealed that in the rural sector, the richest 10% of the population accounted for 32.2% of total consumption of industrial goods whereas the poorest 50% accounted for only 22.0% of the total. In urban areas, the top decile purchased 39.3% of industrial goods, the bottom 5 deciles absorbed just 19.9% of the total. Thus an unequal distribution operating through the demand factor has restricted the prospects of sustained industrial growth. An increase in cereal prices squeezed the demand for manufactured goods after 1965. In terms of current prices, the proportion of private consumption expenditure in the economy devoted to cereals and cereal subsitutes rose from 27.4% in 1965-66 to 32.7% in 1974-75 whereas proportion spent on industrial goods fell from 23.1% to 19.30% in the same period. Only a broad-based demand for mass industrial goods can lead to full utilisation of capacity. The following table gives the growth rates in industrial production during 1960-1975:

Average annual percentage increase in production

	Industrial group	1960-65	1965-70	1970-75
1.	Basic industries	10 4	6.2	5.2
2.	Capital goods	19.5	-1.7	5.1
3.	Intermediate goods	7.0	2.5	2.6
4.	Consumer goods	5.0	3.9	1.6
	(a) durable goods	10.7	8.4	2 4
	(b) non-durable goods	3.8	2.7	1.5
5.	Total industrial production	9.0	3.3	3.6

(Source-RBI Report on Currency and Finance, 1974-75, Vol. II, page 26 and 1975-76 Volume 11, page 28).

25. The moral of the whole story is that unequal distribution of income operating through the demand factor has restricted the prospect of sustaining a high rate of industrial growth. Even in the

heyday of Green Revolution, stagnation in industrial sector was not transformed into growth because most of the benefits had gone to the large landowners and rich peasants. Thus a high rate of growth can be sustained by internal market. Successive bumper crops and unprecedented stock pile of food and massive foreign reserves have removed the supply constraints but there is little evidence of sustained industrial growth. It is because of demand factor. The calculation of the PC that the organised sector of the economy will absorb most of the educated unemployed may not come out to be true. Simply by putting a curb on capital intensity we cannot generate more employment unless there is sufficient demand for the goods produced. Even labour intensity may not end exploitation of labour.

26. Even a programme of full employment may not remove poverty which is more widespread and acute than unemployment. Bonded labour is employed but is exploited and remains poor. A landless labour may get work but not sufficient wage because of exploitation. An artisan may get employment but in return may not get sufficient wage to maintain his family at a minimum standard So the question is of not only providing employment but of gainful employment at a reasonable wage rate free from exploitation. Reservation of certain lines of production for the small-scale producer may be of help only when he is assured of inputs and markets free from exploitation No programme for the amelioration of weaker sections has any chance of success without a break-up of the landlord-cum-money-lender-cum-trader dominated power structure. This has to be politically organised.

27. To what extent agriculture can absorb the under-employed and the unemployed as visualized in the DFYP ? Since agriculture is supposed to provide additional employment to 46% of the unemployed, the question assumed added significance. The employment strategy of the DFYP for this sector is based upon four assumptions : (i) creation of additional irrigation potential, (ii) sufficient improvement in utilisation of existing and new irrigation potential, (iii) widespread diffusion of HYV technology in irrigated areas with an appropriate crop-mix, (iv) productive absorption of labour in agriculture at rate higher than experienced in the past

28. Increase in agricultural output is not necessarily accompanied by more employment. This may be due to increasing capital intensity in this sector. The secondary or multiplier effect of such limited initial growth in income may leak out to capital intensive organised industries This does not mean that opportunities for additional employment in agriculture are exhausted. More employment can be generated by augmenting area under cultivation, augmenting area under irrigation, extending the use of divisible yield boosting inputs, changing the cropping pattern for less labour intensive to more labour intensive crops, institutional changes favouring the small and landless labourers. In the last few years some efforts have been made but no significant dent has been made on unemployment. This is due to tardy, half-hearted and perfunctory implementation of these schemes due to domination of vested interests which thwart such measures.

29. Although no reliable estimates of output employment elasticity are available, some estimates have put it in the range of 0 3 (Mellor) and 0 75 (Hanumantha Rao). If we take the figure of 0.5, the growth of agricultural output should take place at the rate of 4% per annum just to absorb additional work-force from agricultural households. But such a rate of growth may not make any serious dent on rural unemployment or under-employment because the backlog is considerable. The DFYP has projected gross agricultural output to grow at an annual rate of 3.98% and value added in this sector to grow at a rate of 2.76% between 1978-79 and 1982-83.

30. The long-term trend in agricultural production since 1949-50 was one of increase but at a slow pace and marked by fluctuations which showed the impact of periodical failure of the monsoon. The Green Revolution was a short-lived phenomenon and could not be sustained for a longer period. The benefits of this were confined to a few selected areas and to big landowners and rich peasants. This is bound to happen in an agrarian economy characterised by highly skewed asset distribution and capitalist production relations. The following table gives the averages of annual growth rates for the periods 1949-50 to 1976-77, 1949-50 to 1964-65, 1964-65 to 1976-77 in respect of area under crops (A), production (P), and yield (Y) for certain selected groups :

Growth Rates in Area(A) Production(P) and Yield(Y) Indices of Selected Crops

Crops	Area			Production			Yield		
	49-50 to 76-77	49-50 to 64-65	64-65 to 76-77	49-50 to 76-77	49-50 to 64-65	64-65 to 76-77	49-50 to 76-77	49-50 64-65	64-65 76-77
(i) All crops	1.1	1.5	0.4	2.7	3.2	2.1	1.6	1.7	1.7
(ii) foodgrains	0 9	1.2	0.4	2.8	3.0	2.6	1.9	1.8	2.2
(iii) cereals	1.1	1.2	0.6	3.1	3.2	2.8	2.1	2 0	2.2
(iv) rice	0,9	1.2	0.5	2.7	3 5	1,6	1 8	2.3	1.1
(v) wheat	3.0	2,3	3.9	6.4	4.8	8.5	3.3	2.4	4.4
(vi) jowar	0.1	1.1	-1.0	2.5	3.2	1.7	2 4	2.1	2.7
(vii) pulses	0.7	1.3	-0.2	0.8	0.8	0.9	0 1	-0.5	1.1

Source-RBI Bulletin, June 1978, page 452.

The object is not only to achieve a high rate of growth of agriculture but also the diffusion of benefits of this growth. At present the bulk of benefits are being cornered by rich peasants. This may be attributed to skewed share of different holding groups in agricultural production, unequal distribution of income among the peasantry. One percent of holdings accounts for 25% of foodgrain production. Only a thin crust of peasantry has a cash nexus with the non-agricultural sector. The share of total agricultural income spent on non-agricultural goods and services remained virtually stagnant. There is lack of resilience on the part of village and household industries to meet the demand of the more affluent sectors of peasantry. This demand is diverted to organised, capital intensive industries located in urban areas.

31. To generate large employment in the agricultural sector, large investible resources have to be allocated to small farmers for supportive infrastructure to enable them to use the package of complementary inputs. Since agriculture is mainly privately owned sector, it

will become difficult for the state to achieve a desired cropping pattern as it has very little control over the economic decisions of millions of cultivators. This can be achieved if we decentralise planning and give wide powers to village panchayats and block-level samities which can prepare production plans for the villages. The role of panchayats should change from mere administrative units to production units with wide functions to be performed by these bodies. These bodies may run their productive enterprises, prepare cropping plans, distribute inputs and implement land reforms. But vested interests in the rural ecconomy need to be ruthlessly crushed so that the real power is transferred to the masses. For a group of villages we can plan for a number of productive enterprises depending upon availability of local resources and skills but to be owned and operated by the village communities through their elected representatives. Although we talk too much about democratic descentralisation, we are afraid of transferring power to the micro units of planning.

32. The DFYP aims at increasing gross irrigated potential by 17 Mh compared to 8.6 Mh between 1974 and 1978, the rate of gross irrigated area is to rise at 5.54% compared to 3.18% between 1961-62 and 1973-74. Big administrative and organisational effort is involved to step up irrigated area of this magnitude. Annual Report of Comptroller and Auditor General for the year 1975-76 is a shockingly glaring testimony to our dismal record in the utilisation of irrigation potential created. In the 12 major projects covering 6 million hectares of area planned to be irrigated the average area actually irrigated over the five year period (1971-72 to 1975-76) was found to be merely 64.5%. The receipts from most of these projects did not meet even the maintenance costs, let alone the interest charges. The report highlights the following causes of less than optimum utilisation of irrigation potential: (i) inadequate construction of water courses and field channels, (ii) the inequitable nature of the system of distribution of water from canals among farmers, (iii) the inadequacy of total absence of control of structures to minimise the loss of water during conveyance, (iv) inadequate land levelling and reshaping to prevent waterlogging and ensure prompt drainage, (v) transmission losses, (vi) inadequate maintenance, and (vii) inability to enforce the planned cropping pattern.

33. Items (i) to (iv) require cooperation among farmers because of externalities involved and it is precisely in these respects that small farmers have been found to be at a disadvantage vis-a vis big farmers and these have been major obstacles in the spread and utilisation of irrigation water and in the diffusion of modern technology among small farmers.

34. Empirical evidence suggests that spread of irrigation by itself does not lead to increase in yield and production. Let us cite the example of Maharashtra where between 1960-61 and 1971-72, Rs. 530 crores have been spent on creating additional irrigation potential, yet in this state agricultural production has remained more or less stagnant. Bulk of water has been used by sugarcane which requires 18 times more water than that is required by any other cereal crop. Sugarcane, fruits and vegetables consume 58% and 28% respectively of the total quantity of irrigation water available in the state. "Thus nearly 3/4 of the total investment in irrigation in the State went to the benefit of farmers who are growing sugarcane, fruits and vegetables". (Nilkanta Rath, "Performance of Agriculture in Maharasthra, 1960-72, quoted in Some Neglected Issues in Employment Planning by M. L. Dantwala-EPW Feb. 1978). While we make reservation of funds and inputs for small and cottage industries, why cannot we protect the interest of small and marginal farmers by making reservation of water and other inputs to help them raise cropping intensity and reduce the duration of unemployment ? Employment elasticity of output on small farms is high. Growth in agricultural production by itself may not be of much help in augmenting employment, if growth results from large contribution of large farmers. On the other hand, if growth results from larger contribution from small farmers, it will make significant contribution to employment generation. It has been found that "employment per hectare and employment per rupee of output was strongly associated with and showed significantly positive elasticities with respect to percentage of land operated in farms of five acres or less". (Employment Structure and Planning Policy—Perspective Planning Division, PC, May, 1977). Being technologically scale neutral, the HYV technology has helped to lower the threshold viability of small farms. The labour use per unit of land has been generally found to be higher on smaller size operational holdings.

35. The other sector, besides agriculture, on which greater reliance has been put for generating additional employment, is the sector of small scale and cottage and household industries. In the DFYP it has been visualised that these industries are expected to generate 6.8 million person years of additional full time employment and 6.27 million part-time employment. The following table shows hardly any change in farm and non-farm employment of rural labour force. The percentage of workforce employed in rural industries has gone down.

Occupational structure of the work-force in 1961 and 1971
(in percentage of respective totals)

	1961			1971		
	Rural	urban	total	Rural	urban	total
Total workers	100	100	100	100	100	100
cultivators	60.33	6.5	52.80	51.61	5.10	43 36
Agricultural labourers	18.86	3.48	16.71	30.69	6.0	26.31
Livestock, forestry, fishing, hunting and plantation orchards and allied activities	2.81	2.52	2.77	2.53	1.68	2.38
Total agricultural sector workers	82.00	12.55	72.28	84.83	12.78	72.05
Mining and quarrying	—	—	—	0.41	1.0	0.51
Household industries	6.13	7.90	6.38	3.21	4.96	3.52
Other than household industries	1.50	20.96	4.23	2.29	22.85	5.94
Construction	0.67	3.65	1.09	0.74	3.50	1.23
Trade & commerce	2.06	16.30	4.05	2.44	20.05	5.56
Transport, storage & communications	0.55	8.04	1.60	0.82	9.97	2.44
other services	7.09	30.60	10.36	5.26	24.89	8.75
Total non-agricultural workers	18.0	87.45	27.72	15.17	87.22	27.95

The base of rural industrialisation is very narrow and when considered with progressive decline in the work force employed in rural household industries, the task of achieving the target of employment becomes difficult.

36 Most of small scale industries are concentrated in metropolitan town or cities either as ancillaries to the organised sector or competing with it producing the same or similar products satisfying the same need. Most of them are split units of large units or private limited companies of a few family members. Some of them are open or disguised subsidiaries of large units operated by large capitalists simply as extension of large capitalist sector. Some exist on paper or on letter heads. In the name of smallness they have received considerable help in the form of subsidies, rebates and concessions from the central and state governments and financial institutions, irrespective of their line of manufacture, their location and their linkage with the regional economy. Only smallness is sufficient to earn them these concessions. Most of them are capital intensive and the degree of capital intensity is on the increase In a recent census of the small scale industrial units it was found that all the units covered in the census contributed 14.5% of the value-added but only 10% of the employment in the entire manufacturing industry, including the organised sector. How is the Government going to ensure labour intensity of these units most of which cater to the requirements of luxury goods ? The mere fact that list of items reserved for them has been expanded from 180 to over 500 does not mean that really small units will enter the field. Many of the products in the reserved list are articles for which the only buyers will be large industries. The degree of sophistication is so high that there may be increasing capital intensity.

The basic point is that the policy of encouraging the modern small scale industry may not help substantially in reducing unemployment and may most probably help better-off segments of the urban-based enterpreneurs. The location of small industries is a question which deserves our attention equally. So far spatial aspect of employment has been neglected with the result that there has been concentration in few developed areas of the country. Even the DFYP does not pay much attention to this aspect of planning.

Although there is emphasis on micro-level planning, no scientific methodlogy for location of functions and services has been evolved. There is not much to achieve functional an spatial integration in the Plan. Right type of regional planning is very essential for achieving integrated rural-urban development.

37. As regards cottage and village industries there are two-fold problems. Purely local and traditional demand for their products would depend upon the prosperity in agriculture and its composition. It has been found out in certain recent studies that the surplus generated by rural prosperity by the green revolution under the existing land holding structure tends to be spent on commodities by the urban-based organised sector. It is agricultural prosperity within a radically different landholding structure that can generate demand for non-agricultural activity in the cottage and village industries.

38. To what extent cottage and small-scale industries can achieve the targets of employment increase as visualised in the DFYP ?

The following table gives data on production in 1977-78 and in 1982-83 for the various sub-sectors of small industry :

Sub-Sector	Unit	Production		Increase in %
		77-78	82-83	1982 over 77-71
1. Handloom	million metres	2300	3700	60.9
2. Powerlooms	,,	1800	3900	116.7
3. Khadi & village industries	Rs. crores	270	2561	848.5
4. Small-scale industries		6700	26,700	298.5
5. Handicrafts	,,	550	800	45.5
6. Sericulture	lakh Kg.	35.4	62.5	76.6

Source-Draft Five Year Plan---1978-83.

The step-up involved is substantial, varying from 1.5 times in the case of handicrafts to 9.5 times in khadi and village industries. The rates of growth are in each case as high as compared to both the short period past and the long period past, as the following table indicates :

Sub-sector	Rates of Growth (per cent per annum compound)			Increase in employment
	1965-66 1977-78	1974-75 1977-78	1977-78 1982-83	in 1982-83 over 77-78
1. Handlooms	—	0.2	10.0	61.0
Powerlooms	—	2.4	16.7	30.0
Total	2.5	1.1	13.1	
2. Khadi and village industries	10.4	14.6	56.8	190.9
3. Raw silk	4.2	6.7	12.0	22.2
4. Small scale industries	—	10.8	31.9	108.4

The rate of growth in each case appears to be out of proportion to the rates already achieved.

39. The allocation of public sector funds is actually less in proportion to total outlay in the plan as the following table indicates :

Public sector outlays on industry by plans

	Percent of total (Organised industry)	Village and small industries percent of total
I Plan	2.8	2.1
II Plan	20.1	4.0
III Plan	20.1	2.8
Annual plans	22.8	1.9
IV Plan	18.2	1.5
V Plan	17.4	1.3
Draft Plan	12.9	2.0

Source : I.C. Sandesara, Small Industry Production in 1982-83, EPW, April 29, 1978, page 730.

39. The diminished allocation for organised industry is bound to affect the growth of small industrial units. The Draft Plan observes "The organised industrial sector does....present several disturbing features. One of the most disturbing of these features is the relative decline in the growth of small scale sector as compared to medium and large scale sector. ISI data reveal that the share of small scale sector in industrial production in terms of value added fell from 19.5% in 1968 to 16.1% in 1975-76." Nearly 60% of the total output of modern small scale sector may witness only modest rates of growth consequent upon relatively low importance of large industry. The main boost should come from such small units which are independent of large units. The other sector is that of household industries and handicrafts dependent upon the rate of growth of demand within the country. The question is related to rate of growth of income and elasticity of demand for their products.

DEPENDANTS' RATES

The dependants' rates in 1950 varied between a minimum in Albania of 103 non-earners of the population aged 55 and over for every 1,000 workers, to a maximum of 388 per thousand in Belgium.

The ILO projections show that by the year 2020 the strain of supporting the older group could vary between a ratio of 281 per 1,000 in Poland and 741 in Malta During the 70-year period under survey, the ratios of elderly dependants per thousand workers are likely to increase considerably in Finland (144-558), Bulgaria (104-346), Switzerland (161-530), Greece (175-506), Hungary (176-488), Japan 119-326) and Italy (248-617). Substantial increases are also expected in the United Kingdom (293-498), Federal Republic of Germany (278-452), USSR (250-406), United States (198-370), France (278-424), Canada (265-381) and Sweden (290-401).

States' Indebtedness to the Centre

Prakash Tekwani

The most crucial problem of the Centre-State financial relations is the debt burden and the debt servicing liability of the States. A large part of State loans comes from Central Government. The Central Government has provided to the State Governments loans of a large variety for both plan and non-plan purposes 'on various terms and conditions. Borrowing is resorted to among other purposes for irrigation and river valley programmes, agricultural development, rehabilitation, community development and industrial housing, etc. There have been loans for meeting natural calamities and for improving the general standard of administration. Another type of loan that has come up is through the conversion of overdrafts of the States from Reserve Bank of India whereby the Central Government has on many occasions taken over the drafts of the States.

The States mainly depend upon the Centre for their loans. At the end of March 1951, the total debt of the States stood at Rs. 375 crores of which the loans from the Centre accounted for Rs. 196 crores or 52.2% of the total. Since then the percentage of Central loans in the total States' debt has fluctuated within the range of 70-75%. Between March 1951 and March 1971 the total debt increased by about 50 times and the loans from the Centre increased by 68 times. But this should not cause any embarrassment since financing the social and economic development programmes in a developing economy needs large amount of funds and thus there are large State debts.

Starting from the repayment figure of Rs. 72 1 crores against fresh loans of Rs. 769.5 crores in the Ist Plan, the repayment figure increased to Rs. 3,666.6 crores against fresh loans of Rs. 6769.2 crores in the 4th Plan. Since then the repayment obligations have declined due to debt relief provided by the Sixth Finance Commission. Further, the loans from the Centre form a major portion of capital receipts of the States. Starting from 69% of the total capital receipts in the Ist Plan, they rose to 73% in annual plans and in 1977-78 they were budgeted to be 53.5% of the total capital receipts The repayments as percentage of capital disbursements were 6.8% in Ist Plan. They rose to 34.7% in IVth Plan. In 19/7-79 they were budgeted to be 15 7% of the capital disbursements.

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* Lecturer in Economics, Government College, Rajgarh.

There are three components of the capital disbursements of the States viz. repayment of the loans to the Centre, loans and advances to the third parties (which include loans to Electricity Boards and irrigation projects) and developmental expenditure. The developmental outlay was about 65.7% in the Ist Plan and declined to 32.6% in the 4th Plan. The increase after that was due to debt relief and in 1977-78 its budgeted figure was 45.6% of the total capital disbursement. Loans and advances to the third parties constitute another 30% or so.

Causes of the rising debt burden on the States

1. Ordinarily developmental outlay and loans and advances to the third parties should have enabled the States to repay their debts easily but all the capital outlay does not go to commercially viable investments. States provide major portion of infra-structural facilities for social and economic development. The developmental outlay on this account is not income-yielding. Unfortunately, even those projects which are expected to be income-yielding are not showing sufficient returns. Many of these projects have long gestation periods and there are delays in their execution resulting in increase of the costs. They do not also run efficiently and their pricing policy is faulty. Similarly loans and advances given to Electricity Boards and irrigation projects are not giving sufficient returns.

2. The second reason of debt problem of States is inadequacy and faulty composition of Central transfers to States. It is often argued that loans form a more than optimum component of resource-transfer. Even the assistance for relief against natural calamities is often in the form of Central loans. The phenomenon of inadequacy starts with the policy of Finance Commission. The budgetary projections of the States are scrutinised with utmost care as if States are financially imprudent. In this process many legitimate parts of projections are cancelled. The expenditure of States is also

underestimated. The net result is that many States appear to have surplus on non-plan revenue account for the projected period while in reality they may face even heavy deficits.

Yet another example of inadequency is the fact that non-plan capital requiements of States are nobody's responsibility. Only the Seventh Finance Commission has been specifically asked to look into non-plan capital requirements also.

3. To the total picture of inadequacy, we may also add the policy of Central Government. There are many instances in which Central Government has ignored the interests of States and taken the steps to irritate the States.

In the first place Centre has not taken sufficient steps to impose all the taxes under Article 269 (whose proceeds would go to States). Secondly, in case of additional excise duties, Centre has not bothered to enhance the duties on those items whose proceeds would go to the States. Thirdly, change in tax laws to convert a portion of income tax into corporation tax has also reduced the States' share in the proceeds of income-tax. Moreover, it is the Central Government's responsibility to keep prices stable since currency and mint, money and banking and many other relevant financial powers are with it, but its failure to check the price line has made the situation of States even worse. It may be emphasized that blame of existing difficulties of the States is not entirely upon the Centre. States should exploit their tax and non-tax revenue resources. For example, the agriculture sector is under-taxed, especially the rich farmers.

Finance Commissions and Union Loans to the States

The need for solving the complex problem of indebtedness of the States has been realised from time to time. The VI Finance Commission made a detailed study of the debt position of States and recommended the total debt relief of Rs. 1970 crores for the Fifth Plan. The Commission has felt that instead of spending large amount on financing relief on ad hoc basis, it would be better to provide on a large scale for development of drought and flood prone areas in the Fifth Plan in the Central and State Sectors.

The Seventh Finance Commission has estimated the total debt of State Governments to be Rs. 18,785 crores at the end of 1978-79 in which the liability to the Central Government would be Rs. 13,463 crores and the market loans would be a sum of Rs. 2,572 crores. The residual amount comprises of negotiated loans, compensation bonds, provident funds and other unfunded debt. The Commission has estimated that a sum of Rs. 943 crores out of the total debt to the Centre represents unproductive loans in the sense that they are not expected to yield any financial returns. This 'non-return debt' is to be written off. The remaining is to be divided into two parts. One part, classified as "semi-productive" is to be repaid in 30 equal annual instalments from 1979-80 and the other part, designated as "productive" is to be repaid in 15 annual instalments The rates of interest in these debts will be 4.75 and 5.00 percent. respectively.

The Commission has also recommended that the States' shares in the small savings collections outstanding at the end of 1978-79 should be converted into 'loan in perpetuity'. This would mean that the liability of States to pay interest will continue but the liability to repay the depositors will be borne entirely by the Centre. The Central Government has rejected this recommendation. However, a five year moratorium on the repayment of these loans has been agreed to by the Central Government. In the light of non-plan capital gap of the States for the five years ending 1983-84 assigned by the Commission at Rs. 3,512 crores, the Finance Commission has recommended relief of the order of Rs. 2,155.9 crores for the period 1979-84.

Problem of States' unauthorised overdrafts

By the time the Fifth Finance Commission was appointed in Feb., 1968, an additional problem relating to the States' unauthorised overdrafts from the Reserve Bank of India had emerged. Under section 21-A of the R.B.I. Act, all States, except Jammu & Kashmir, have entered into agreements with the R.B.I. The Act empowers the Bank to provide advances to the State Governments repayable within three months of the date of advance. The RBI has been providing two types of advances under this statutory power. They are : (i) normal ways and means advances for which no cover is necessary, also called as 'clean' advances and are at present fixed as a certain multiple of minimum cash balances held by each State Government with RBI and (2) special advances against Union

Government securities, also called as secured advances. They are up to twice the level of normal ways and means advances. The problem of States' unauthorised overdrafts arise either because the limits agreed to between the RBI and the State Governments are exceeded or because the overdrafts are not repaid at the end of the financial year.

The Fifth Finance Commission was asked to examine this problem and to recommend suitable measures to discourage unauthorised overdrafts. The Commission reported that the main causes behind this problem were chronic imbalances between resources available to them and their responsibilities under the Constitution, withdrawal of corporate income tax by the Union Government from the divisible pool, increasing financial requirements to meet plan expenditure and mounting burden of Union Government's loans on them. Besides factors like revenue lags in the States' budgets, delay in releasing financial assitance due from the Union Government to the States were also considered responsible for frequent overdrawings by the State Governments. Therefore, the Commission recommended various general measures and even after these measures if the State Governments ran into unauthorised overdrafts, the Commission recommended that the RBI should issue notice to the concerned States and decline to honour their cheques. The RBI should bring this to the notice of the Union Govenment and the Union Government should clear off unauthorised overdrafts of the concerned States out of its plan assistance to these States and in case this is insufficient, it should make ad hoc loans to those State Governments for clearing the unauthorised overdrafts and adjust futher plan assistance for such ad hoc loans to those State Governments.

However, the Union Government did not accept these recommendations. Instead, the Central Government took over the outstanding overdrafts through special medium term loans to the State Governments. The loans thus advanced were repayable in six years beginning from 1973-74 After these arrangements came into force, the State Governments have generally refrained from running into unauthorised overdrafts and no occasion had arisen in which the RBI has had to suspend payment on behalf of the State Governments.

However, the method through which it was achieved further increased the burden of Union loans on the States.

During the last financial year, 12 States had run into overdrafts with the RBI totalling Rs. 55 crores for covering their combined overall closing deficits. This has now been virtually written off by the Centre to help these States to start on a clear slate. Only Madhya Pradesh had an overdraft of Rs 50 lakhs on the RBI on March, 10, 1979 according to the latest information available.

The following steps can help in solving the problem of unauthorised overdrafts of the State Governments :

i) An effective control and coordination over the payments made by various Treasuries and Sub-Treasuries.

ii) The R.B I. can impose statutory limit over its lending in proportion to the current resources of the States. This will not only check the unauthorised overdrafts but provide better facility of overdrafts for the States which take pains to raise their resources.

iii) The State Bank of India, instead of RBI, should be made State Governments' banker. This will discourage unauthorised overdrafts as the SBI will follow the commercial rules.

iv) State Governments should realise a sense of responsibility and should not be tempted to misuse the facility.

Corrective Measures

The problem of State indebtedness can be divided into two parts :

i) that related to past debts, &

ii) that regarding the future debts.

It is suggested that the problem of existing debts should not be tackled through the rescheduling of the repayments. All the existing debts should be divided into 'productive' and 'unproductive' ones. Loans meant for schemes and projects which are not expected to yield income to the States should be classified as unproductive and should be written off, since they ought to have been financed either by revenue surpluses of the State or by Central grants. The Seventh Finance Commission has estimated Rs. 943 crores out of the total debt of the States as unproductive and it has to be written off.

The investments which are partly productive and partly promotional or welfare in character should be financed by soft loans.

This very policy should be there for further loans also. Thus, in future the discretionary assistance from the Centre to the States should not be divided into grants and loans on the existing basis. Instead the total scheme for which the assistance is being extended should be in the form of outright block grants and block loans in proportion to the scheme so approved.

It goes without saying that both the Centre and the States should feel firstly committed to their respective obligations to the society as a whole and there should be an atmosphere of mutual goodwill and trust between them.

Table—I

Debt position of States as at 31 March 1979 (Rs. in crores)

	1951 (Accounts)	1956 (Accounts)	1961 (Accounts)	1966 (Accounts)	1969 (Accounts)	1974 (Accounts)	1979 (Estimated)
1. Internal Loan :							
(a) Market loan	111	222 (17.2)	410 (15.0)	720 (13.1)	950 (12 9)	1543 (13.3)	2572 (13.6)
(b) Other loans	12	45 (3.4)	182 (6.6)	458 (8 2)	539 (7.2)	612 (5.3)	776 (4.3)
2. Loan from Centre	196	943 (72.7)	2014 (73.5)	4103 (74.5)	5569 (75.1)	8578 (74.0)	13463 (71.6)
3. Provident Funds etc.	56	86 (6.7)	133 (4 9)	231 (4 2)	367 (4.9)	857 (7.4)	1974 (10.5)
Totals Loans :	375	1296	2739	5512	7425	11590	18785

Source : Various Issues of RBI Bulletin ; Report of VII F. C. page 116 Chapter---11.

Table—II

(Loans from the Centre in the Capital Budgets of States) (Rs. in crores)

	First Plan	Second Plan	Third Plan	Annual Plan	Fourth Plan	1977-78
A. Loan from the Centre :	769.5	1417.0	3091.7	3039.9	6769.2	1522 3
B. Repayment of Loans to the Centre :	72.1	365.2	1014.2	1217.3	3666 6	621.0
% of total capital Disbursement :	(6.8)	(15 4)	(21 6)	(28.9)	(34.7)	(15.7)
C. Net Loans from the Centre :	697.4	1052 8	2077.5	1822.6	3102.6	891.6

Source : Various Issues of RBI Bulletin.

Table—III

Debt Relief During 1979-84

(Rs. in crores)

S. No.	State	Estimated Debt Relief for the period 1979-84
1.	Andhra Pradesh	135 63
2.	Assam	112 20
3.	Bihar	182.65
4	Gujarat	108.02
5.	Haryana	38.29
6.	Himachal Pradesh	30.37
7.	Jammu & Kashmir	133 79
8.	Karnataka	39.53
9.	Kerala	115.09
10.	Madhya Pradesh	147.34
11.	Maharashtra	160.78
12.	Manipur	11.85
13.	Meghalaya	5.94
14.	Nagaland	18 59
15.	Orissa	96.48
16.	Punjab	60.67
17.	Rajasthan	137 98
18.	Sikkim	0.66
19.	Tamil Nadu	49.93
20.	Tripura	10.55
21.	Uttar Pradesh	367.63
22	West Bengal	191.93
	Total	2155.80

Source: Report of Seventh Finance Commission, page 122, Chapter-11

(Continued from page 120)

office orders) to them in respect of the processes of Plan formulation and execution (irrespective of the panchayat bodies liking or disliking), and in terms of appointments, service conditions, promotion and transfer, retirement, etc., they are subject to the departmental control. Accordingly, as they are accountable to the government only, the panchayat bodies have nothing to do in respect of evaluation of the work of the block functionaries. There is no built-in system in which the panchayat bodies are expected to evaluate the work of the functionaries and that evaluation will be considered as entry in their respective service books.

The kind of relationship between the Block officials and panchyat bodies, as shown above, gives an impression that the official functionaries at the samiti level—from BDO to LDC are not indentified with the panchayat bodies but working as outside agents. So, the impression that officials are deputed to the non-officials for development works in Samiti area and form a unified group of functionaries appears to be misleading.

The study of the nature of functioning at the level of Panchayat Samiti through personal interviews with BDO, Special BDO for Indo-Dutch Project, AEOs belonging to different departments, Assistant Director (Agriculture), some sarpanches of gram panchayats, some village leaders and farmers and finally Revenue Division Officer (who was that time in charge of Panchayat Samiti administration since the Samiti President's functions were terminated) revealed that what is going on in respect of decision-making in Plan formulation and its execution at different levels in the name of Panchayat Samiti and Gram Panchayat is actually the role played by the officials in their respective fields. The level of involvement of the panchayat bodies at the samiti-level is that they are simply apprised of the government's budget limits for different departmental functions and various schemes formulated on its basis with target-achievement provisions. The officials also seek their help in the matters like site selection for irrigation projects, demonstration of technique of cultivation of new variety of seeds and use of fertilizers etc. and also site selection for fodder development, etc. In short, the officials seek the cooperation of the non-officials at the time of need and urgency they face in course of execution of development plans. The purpose of Standing Committees on different aspects like finance, agricultural development, animal husbandry development, etc. was that the problems of each of those fields would be thoroughly discussed, solutions found out, priorities set up, plans formulated. Since the entire process is initiated by the officials under the instructions of the respective departments, the role of the Standing Committees have been virtually defunct. So, there was no meeting of those individual Standing Committees for a long time, presumably because they had nothing to discuss.

Let us analyse the position in specific terms. To start with, the stage of formulation of plans and programmes, it was found that this task both at the Gram Panchayat and Panchayat Samiti levels is dictated by the official functionaries of the State Government like Assistant Director of Agriculture, BDO and his Extension staff in accordance with the funds available from the state government. The seasonal plans (for both Kharif and Rabi) though fomulated in the Panchayat Samiti building, are mainly the reflections of ideas of the officials of the State Government Departments like Assistant Director of Agriculture, BDO and his extension staff and the dictates of the general policy of the State Government, subject to volume of inputs and financial resources available for the specified period. The Gram Panchayat bodies are then apprised of such plans which are executed by the AEOs with the help of VDOs. In respect of implementation of those plans, the role of panchayat bodies is neither central nor deep, but peripheral, i.e. to help in communicating with the village people who are both direct and indirect beneficiaries of the schemes and also in harnessing cooperation of the people. Our impression here is that the local bodies are denied the vital responsibility of plan formulation on the basis of the local needs and resources at panchayat levels, presumably because they are not treated as technically competent to do this task. Despite this, it was found that the BDO and AEOs at Samiti level and VDOs at the village level have always a congenial relationship with panchayat bodies, possibly because there is no vital conflict between the officials and non-officials who agree whatever the government officials intend to do in designing the plans. The Block officials have emphatically reported that they were happy to work with the non-officials. It can be safely presumed that this passiveness of the non-officials has created a non-interfering and non-obstructing atmosphere of work for block officials. On the other hand, the experience of BDO working with the Panchayat Samiti administrator (Revenue Divisional Officer) is not happy, because the latter has not given him a free hand as enjoyed by him when the non-officia– was heading the Panchayat Samiti.

Moreover, the involvement of panchayat bodies is totally absent in the formulation of special programmes operating at different levels. Special programmes are formulated purely by the highest authorities of administration—State and Central and thrust upon the block administration to carry out the work on the different components of the programmes. For example, the SFDA administration at the district level has come out with their specific plan and budget for the official staff and the amount of subsidy allotted for a particular financial year. Here, in this field, the main role is assigned to the credit institutions like cooperative credit societies and land development bank and commercial banks and the technical staff at the block and village levels. The village panchayats are supposed to help the administration in the process of identification of small and marginal farmers and agricultural labourers and in communicating to them the benefits of the SFDA schemes. The same is the position of the local bodies in other special programmes in the block. Both the Samiti Gram Panchayats were found to have helped in the process of identification and certification of small and marginal farmers.

In the matter of execution and supervision of the plans again. the State government is mainly competent to exercise powers. First, there is an Assistant Director of Agriculture who is in charge of the Revenue Division of Hyderabad-West (comprising three Blocks of which Chevella is one) so far as the agricultural administration is concerned. He is expected not only to take part in the formulation of agricultural plans in the block, particularly introduction of high yielding and drought-resistant crops, decision-making in respect of the quantity and variety of seeds and fertilizers and the pattern of their distribution from godowns to the retail dealers, and also to supervise the actions of the Agricultural Extension Officers and Agricultural Assistants in the Block, who are in charge of the practical application of those seeds and fertilizers in the field and their distribution from the retail dealers to the farmers. He, of course, is to consult always the BDO on these matters. Here, panchayat bodies stand almost nowhere, because the work of supervision of agricultural programmes runs from the upper level of the departmental administrative hierarchy down to the level of the village officers. Thus the effective dimension of the role of the local bodies within this process is missing. So, it seems that the present administration is not radically different from what we witnessed in the bureaucratic set-up of block administration in the early fifties.

Secondly, the post of an Extension Officer exclusively for panchayats indicates that the total team of functionaries at the block and village levels are not identified with the panchayat affairs which are supposed to be characterised by developmental works. The mark of difference between the officials and non-officials in so far as the planning and implementation are concerned, is pronounced.

We may now examine the aspects of financial resources of the local bodies for developmental work. The income of the gram panchayats from different sources of revenue is too meagre to do any serious type of work ; the amount of taxes in arrears is always too big. Hence the contribution of the gram panchayat to samiti's development fund is insignificant. The samiti, on the other hand, has some indigenous sources of income which are not substantial and mainly depend upon the Government's budgetary allocation of funds of the different departments of the State government. This development plan for the samiti is prepared on this basis. The position of financial resources of the samiti bears little or no scope for it to exert influence and command over the funds and the expenditure on the prescribed components of development work like agriculture, irrigation, animal husbandary and other social facilities. This is the most vital area—finance—where the samiti has no freedom of action. That is why the Minister or Panchayati Raj of Andhra Pradesh Government advocated independent source of revenue income for the panchayat free from direct government control. "In this connection", an ex-Minister for Panchayti Raj in Andhra Pradesh declared, "I am particularly keen in setting up a Panchayati Raj Finance Corporation where the finances from Panchayati Raj institutions, Reserve Bank of India, Life Insurance Corporation and other financial institutions would be pooled and the financial requirements of panchayati raj institutions can be met by way of loans for development programme".[3]

It is found that in introducing high-yielding and drought-resistent varieties of crops, the sarpanch and other members of gram panchayats usually take interest and try to motivate the farmers to adopt them. It is no doubt a great help to the V.D.Os and the A.E.O's who are assigned to carry out the task of this diffusion. In the matter of construction of irrigation wells—individual or community—from the stage of site selection to that of energisation of pumpset, local bodies help the individuals or groups with men, material and knowledge at whatever level they are capable of. This type of assistance is more helpful to those who belong to backward classes who are away from the mainstream of community life. The mechanics of supply of new seeds and fertilizers is under the command and responsibility of the Agricultural Department at the State level and Assistant Director (Agriculture) at the Revenue Circle level (ordinarily an area covering three or four blocks), AEOs at the block level and VDOs at the village level. The functionaries at all these levels are supposed to see the arrival of new seeds and fertilizers in the required quantities in time and also at the same time to supervise their distribution from godowns to retail distribution at the village level and ultimately to the farmers who have requisitioned them. In this process, the local bodies have very little or nothing to do.

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[3] Shri L. Lakshman Das, Inaugural Address on the Occasion of the Sixth Rural Development Week at N.I.C.D. on October 2, 1975.

In regard to special programmes like SFDA, in the matters like identification of small and marginal farmers and agricultural labourers, selection of trial plots and community and individual wells, selection of most needy beneficiaries and supervision of schemes concerning poultry, sheep-rearing and dairy and plough cattle, the sarpanches and members of the Gram Panchayats become helpful at the village level ; but out of this role the leadership with initiative and thrift has not emerged to carry out the central task of rural development. In regard to veterinary health cover and artificial insemination for animals instituted through village-level units, the role of local bodies is less pronounced than in the field of crop husbandry.

In programmes to catering to the social facilities like education, health and family planning, women and child welfare including Indo-Dutch Project for Child Welfare, the local bodies are found to cooperate with them at different levels. Though there were standing committees on different components of development works like production, education, cooperation, they have no effective role in decision-making in the true sense of the term. Recently, members of the gram panchayats have come forward to motivate the people for family planning and faced some resistance particularly of the Muslim community is so far as vasectomy and tubectomy methods of family planning were concerned.

Conclusion : The preceding 'reflections' on the pattern of functions actually discharged by the local bodies in Chevella Block warrant us to conclude that the intention of the delegation of powers to the local bodies by the Act has not worked precisely well in the practical field. Firstly, the Act has provided that 'the administration of the Block shall vest in the Panchayat Samiti, whose resolutions taken in the Standing Committee meetings are to be carried out by the BDO as the Chief Executive Officer of the Panchayat Samiti, and "the President of the Panchayat Samiti shall exercise administrative control over the Block Development Officer for the purpose of implementation of the resolutions of the Panchayat Samiti or any Standing Committee."

It is clear that the Act provides the Samiti or the Standing Committees with power of decision-making through 'resolutions' which are to be translated into plan of action or schemes. But our central finding here is that the schemes which are implemented by the BDO with his AEOs and VDOs are not the result of the resolutions of the Standing Committees, which are supposed to reflect the local needs set in order of priorities, but the dictates of the governmental requirements within the framework of the departmental budgetary limits. If the people's participation in the rural development programmes is to be made effective and meaningful, the panchayat bodies are required to be involved in decision-making and be more alert in the exercise of powers given to them on the one hand and given adequate and actual freedom and funds for carrying out development programmes for them on the other.

Ref. Panchayat Samiti Act 1966 P. 25.

PERCENTAGE CHANGE AT ANNUAL AVERAGE RATES

	Gross Domestic Product		Per Capita Gross Domestic Product		Per Capita Private Consumption		Gross Domestic Fixed Capital Formation	
	1963-73	1973-76	1963-73	1973-76	1963-72	1973-76	1963-73	1973-76
Greece	7.7	2.7	7.2	1.8	6.3	3.5	10.8	—7.4
Portugal	7.1	1.0	7.2	—3.0	6.9	0.5	8.3	1.3
Spain	6.8	2.7	5.5	1.5	4.9	2.2	9.8	0.9
Yugoslavia[1]	5.9	5.4	4.9	4.4	5.0	4.9	5.3	7.5
Brazil	8.2	8.2	5.3	5.3	4.1	9.4[2]	10.3	13.8[2]
Mexico	7.1	4.0	3.5	0.5	3.5	—1.0	9.7	3.5
Hong Kong	9.0	7.1	6.8	5.2	7.2	2.8	6.2	6.3
Korea	10.3	10.8	8.1	9.0	6.5	4.4	17.6	12.8
Singapore	10.5	5.1	8.3	3.7	5.5	3.1	18.8	5.4
China, Rep.	10.4	5.0	7.4	3 2	5.9	2.9	16.7	9.6

1 National definitions.

2 1973-75.

Data : OECD

(Continued from page 152)

7. Shetty, S. L., "An Inter-Sectoral Analysis of Taxable Capacity and Tax Burden", *Indian Journal of Agricultural Economics*, Vol. XXVI(3), July-September, 1971.

Table 1

Index Number of Production in India

Year	Agri. Production (1959-62=100)	Industrial Production (1960=100)
1961	103.31	109.2
1962	99.24	119.7
1963	104.67	129.7
1964	127.71	140.9
1965	114·44	153.8
1966	129.66	153.2
1967	163.21	150.7
1968	181.76	163.0
1969	200.11	175.3
1970	208·97	184.3
1971	224.89	189.6
1972	222.13	199.4
1973	229.45	200.8
1974	236.6	202.7
1975	258.4	220.6
1976	272.3	244.0
Coefficient of Variation	33.15%	21.97%

Table 3

Inter-State Differentials in Per Capita Consumer Expenditure in India, 1973-74.

State/Union Territory	Total Expenditure/Person for a period of 30 days (in rupees)	
	Rural	Urban
Andhra Pradesh	50.67	65.30
Assam	52.03	72.75
Bihar	56.01	78.17
Gujarat	54.49	66.76
Haryana	72.45	74.40
Himachal Pradesh	70.62	98.18
J & K	53.24	55.71
Karnataka	52.32	66.50
Kerala	55.35	68.93
Madhya Pradesh	50.39	65.50
Maharashtra	52.27	79.78
Manipur	52.92	67.46
Meghalaya	58.85	104.90
Orissa	42.46	70.09
Punjab	75.51	82.49
Rajasthan	64.01	68.76
Tamil Nadu	47.74	64.78
Tripura	50.21	81.29
U. P.	51.32	60.81
West Bengal	47.50	80.76
Delhi	60.99	88.04
Goa, Daman, Diu	66.25	84.75
Pondichari	55.56	60.48
All India	53.01	70.77

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- Mr. Dange Speak Out
- The Oil Money Boom and International Labour Migration
- Distributive Justice in the Rural Sector
- Distributional Impact of Export Growth
- Banks after Nationalization

Vol 24, Nos. 10-12 OCTOBER-DECEMBER 1979

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ECONOMIC AFFAIRS

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Mr. Dange Speaks Out

Mr. Sripad Amrit Dange, the veteran communist leader, in relinquishing his chairmanship of the Communist Party of India has come out with a bold public statement unexpected in communist accounting. Mr. Dange has esteemed the once-friend now CPI enemy, Mrs. Indira Gandhi, the former Prime Minister of India and now the Chief of the Congress (I), "as a representative of the patriotic national bourgeoisie which is intrinsically anti-monopolist, anti-imperialist and anti-feudal." He has also denounced the "self-liquiditionist line" of the CPI. He has put forward two very important issues, namely, the causes of the rapid rise and equally of the rapid fall of the Janata, and also the causes of the CPI's and its democratic allies' failure to complete the "democratic revolution".

There may be some room for disagreement whether Mrs. Gandhi is "a representative of the patriotic national bourgeoisie" but it is conclusively true that the CPI, which is an all-India party and has been "assiduously built on decades" under the guide and guard of Comintern, Cominform and their extensions to date has to fall on knees to its breakaway, CPI (M), a regional party, for favour of some Parliamentary seats and unlaboured upliftment in mass movement. Dange however attributes the CPI's failure tc complete the "democratic revolution" to its inability to understand the character of the national bourgeoisie and its leadership.

If the pre-requisite of completion of "democratic revolution" is the participation of the CPI in the national democratic process of peace and progress with the end in view of betraying the national democratic cause for the cause of "people's democracy" (i.e. totalitarianship) then it would be like living in a fool's paradise. Nowhere in the world the communist movement was a success through the bookish theory and practice. The communist states have been established as a booty of world wars and the subsequent thrusts of arms. This is because the world is not divided into two : exploiters and exploited or idealists and materialists, but many and sub-manys. This is also because the world may be changed by "class war" but the world so changed will bear the marks of reverse production relations and is therefore not irreversible.

The character of the national bourgeois is very simple to understand. It simply represents "bourgeois (i. e. Western) democracy", brightens the dilemma from which all the communist countries have been suffering, namely, the clash and coopertion between individual initiative and interest and social initiative and interest, and bows to graduation than "permanent revolution" as a proccess of development. Here the leadership has been democratically developing and hence weak and is sometimes corrupt within the framework of democracy. Here there is no Tsar, no Chiang, no Japan, no wars that can provide a decisive opportunity to the communists to make a common cause with the national bourgeois force under the guide and in the garb of "internationale". This has objectively declared the Indian communists as the weaker counterparts of Euro-communists, which, for theoretical reasons, they are reluctant to accept. This has increased the difficulty of the communists in India.

Mr. Dange seems unnecessarily puzzled over the instant rise and fall of the Janata. The Janata represented protest against all sorts of authoritarianship and hence was its rise ; it concentrated on it and drew a blank in economic front and hence was its fall. The Janata's fall is also a warning to those who are surreptitiously working for authoritarianship and state capitalism. The people want disciplined democracy of Indian orientation on the one hand and food, peace and progress on the other. The re-rallying of nationalist force is for these small expectations.

On New Concept of Bonus

The care-taker Government at the centre has announced its policy of productivity bonus for the Railwaymen. There is little surprise that the labour unions at the organized sectors have raised their voice against linking bonus to productivity as to them bonus is nothing but deferred wage. The Railwaymen have however welcomed it, may or may not be for tactical reason. In anyway, the issue is now a reality and it is for the next elected Government to decide its fate.

Certainly the nation as a whole, save the preferred few, will stand in support of the Government if it can show a strong determination to overrule the principle of deferred wage by the principle of productivity. But the point is how to measure productivity—a point that will assume more complications when productivity bonus will spread to miscellaneous tertiary sectors like civil administration and defence.

In all probability the trend of productivity bonus will take the form of national wage based on both productivity and need, with the necessary provision for neutralizing the price rise in family budgets. National wage policy would be the real and healthy solution of this socio-economic problem.

One thing should be made explicit. National wage concept must cover both organized and unorganized sectors, urban and rural. Bonus as deferred wage is a privilege of the organized sector, bonus as productivity bonus will extend this privilege to some unorganized sectors. But in both cases the rural sector is excluded. The result is that while bonus is a pleasure and sports to the urban employed it is a painful blow to the others as they enlist themselves in poverty line and become the victims of inflationary rise in prices.

Review

Cybernetic Analysis of Indian Societal System, P. N. Rastogi, Centre for Policy Research, New Delhi 110057, 1978, Price Rs. 40.00, $ 8.00.

In his present work Mr. P. N. Rastogi seeks to analyse dynamic behaviour of contemporary Indian societal system based on the science of cybernetics. He has fully explained the nature of society as a cybernetic system to assert that the behaviour of a societal system is the result of its internally interacting control cycles and random exogenous impacts on the system from natural and other sources. According to Mr. Rastogi problems develop in social system when the control cycles of a system fail to function in accordance with their intended and recognized regulatory rules. Not much concerned with why the control cycles themselves fail to function Mr. Rastogi prefers to explain how the failure of the internal regulatory processes leads to diverse types of national crises. He has also shown interest in outlining the rationale of procedures for computing the viability of a societal system and generating its time path through system simulation.

As a case study, representing all the developing countries, as claimed by the author, India has been picked up. At one stage the reactions of events on the regulatory system have been analysed with a sense of realism. Briefly analysing the circumstances that led to the declaration of Emergency and high values that it added to the Administrative Effectiveness and to the other segments Mr. Rastogi comes down to attribute the fall of the popularity of then ruling government to "rigid suppression of political dissent, the subordination of basic civil liberties and the buildup of Sanjay Gandhi" which created a repulsive, nepotic and repressive image of the ruling government. To the present reviewer the attributes are aberrations than contradictions in Nehru Line of democratic process and the revelation of social non rejection of Nehru Line of democratic and economic processes as the present trend confirms. It is also difficult to agree with the author that "Transition toward a military rule or chaotic political anarchy during these periods would have been almost inescapable but for the high structure of national leadership."

Although it remains open how far, if any, the cybernetic analysis is a scientific possibility for a societal system, the author is correct in emphasizing that his work constitutes a modest beginning toward understanding societies better.

Studies in Demography, S. C. Shrivastava, Jai Prakash Nath & Co., Meerut, 1980, Price Rs. 30.00.

In this voluminous book Mr. S. C. Shrivastava in 27 chapters has elaborately traced and discussed the development of demography, the theories of population rates, ratio and demography, various measurements and determinants, migration and urbanization, population and economic development, demographic characteristics and almost all about the demography of India. The book is highly informative and analytical.

The comprehensive demographic analysis of the developing countries centred upon India has made the book useful to students of demography.

Supply Behaviour in Agriculture, Shashikala Sawant, Himalaya Publishing House, Bombay 400054, 1978, Price Rs. 30 00.

In the Preface Sm. Shashikala Sawant claims that her work is much different from the others in that the "present research work is devoted to understanding the behaviour of aggregate supply and to measuring its degree of response to changes in prices. It is thus vitally different from the supply response studies which essentially measure inter-crop substitutability of competing crops, mostly in terms of acreage." For this purpose she selected districts representing a wide spectrum of agro-climatic situations as in Madras, West Bengal, Maharastra and Assam.

Discussing lucidly the alternative models and the model adopted for the study Sm. Sawant adequately analysed for the production response prewar period, 1920-21 to 1941-42 and the postwar period, 1950-51 to 1964-65. The study reveals the inelastic nature of aggregate supply to changes in prices. It also reveals that the yield per acre to supply response is higher than that of acreage and the influence of weather suggests that proper specification of weather is an important factor for the analysis of production. She has also pointed out that urban proximity has some influence on the supply response of agriculture. Clean and scientific analyses of statistical data and sharp revelations of the character of aggregate supply behaviour of Indian agriculture have marked the success of the study.

The Stock Exchange, A. K. Sur, The World Press Private Limited, Calcutta, 1979, Price Rs. 30.00, $ 6.50.

The author in introducing the book to the readers addresses that it is written from the point of view of academic students of Indian universities, in particular, obviously to meet the genuine need of the students who have rerely any text book on Indian stock exchange.

The theme of the book has been discussed under 16 chapters in the context of the evolution of stock exchange. The most useful chapters are on the technique of speculation, forces that govern stock prices, financial report and security analysis and booms and slumps in stock exchange. Each topic is discussed with excellent clarity. The suggestions for a better stock exchange suggests the author's creative long experience in the working of Calcutta stock exchange.

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Manager

Subsistence Economy of Rural Himachal Pradesh ; A Case Study of Three Small Villages*

H. S. Parmar*

The present one is a socio-economic study of a small region consisting mainly of three small villages[2] viz. Pujali, Chalhar and Baloli of Inner Seraj in District Kulu. The region consists of 50 households in all. The upper part of the village Pujali is inhabited by Brahmins, rest of the village Pujali and whole of the village Chalhar are by Rajputs and the village Baloli by that of Harjijans (Koli). There are more than one reason for selecting this small segment for the purpose of study. The predominant factor being that the person taking up the study himself comes from one of these three villages and some peculiar social and economic features of the region have always fascinated him. Some other equally important reasons are as follows :

[a] The region constitutes in itself a self-sufficient subsistence 'economy' with insignificant links with outside world.

[b] Inter-caste socio-economic relations ensure the subsistence for all. All the three castes, Brahmins, Rajputs and Harijans, inhabit the region and their interdependence is perfectly balanced, as far as the question of subistence goes. The three castes depict amusing locational characteristics, the whole region consisting of a geographically identifiable hill, with Brahmins settled at the top and Harijans at the bottom.

[c] This region constitutes one-half of the total domain of the

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* Lecturer in Economics, HPU Evening College, Simla.

[1] The statistical data used may not tally with that of official data as they have been collected from primary source and are in round figures.

[2] Apart from the three main villages, a few households located in the periphery but well-knit-with the social circle have also been included. The revenue record shows such houses out of the limit of these three villages and with a different name of the place.

local Deity (Davi) with all the essential features of such domain being present in this segment.

Methodology

Although most of the social and cultural features as stated are on the basis of the first-hand knowledge of the persons about the region, yet to collect some statistical information a simple household-schedule was personally filled up for each of the 50 households of the region. The schedule contained only twelve questions [and a few sub-questions] seeking information about total family members [Male, Female and Minor], caste, land holding, land leased out/in, land mortgaged, supplementary occupation, wage labour employed etc. As full and very accurate information from the house-owner was not available about a few indicators, mainly because of his (house-ower) ignorance and also reluctance, some vague generalizations have been resorted to. But this generalizations do not, in any case, alter the essential character of the problem under study.

Economics of the Region

The region comprises 50 households with a total population of more than 300 (314) persons. The male population constitutes 52.55 per cent of the total and 34.7 per cent of the population are that of minors (below 15 years). The caste-wise population distribution is as follows :—

Caste	Total households	% of total households	Total population	% of total population
Brahmins	4	8	26	8.3
Rajputs	27	54	200	63.7
Harijans	19	38	88	28.0

Almost 100 per cent population, irrespective of the caste, are engaged in agriculture which is also the main source of subsistence. The distribution of land holdings for whole of the region is as follows :

Size of land holdings	No. of households	Percentage of the total households
Less than 5 Bighas	3	6
5 bighas & above but less than 10 bighas	18	36
10 bighas & above but less than 20 bighas	25	50
20 bighas and more	4	8

(5 Bighas=1 Standard Acre)

The maximum number of households i.e. 86% of the total have a land holding of 5 to 20 bighas. The average size of holding being 11.6 bighas. Keeping in view the difficult terrain of the area and almost impossibility of modernization, this size of holding is not at all economical. Availability of cultivated land per person is about 1.8 bighas only. The following two tables make the situation more vivid :

Caste-wise distribution of land (% of total household)

Caste	Less than 5 Bighas	5 & less than 10	10 and less than 20	20 and above
Brahmins	—	25%	75%	—
Rajputs	7.4%	37%	44.4%	11.2%
Harijans	5.3%	47.34%	42.06%	5.30%

The distribution of land does not seem to favour any caste since there are no astounding variations. The following table is to justify the point still more.

Land Distribution ; Average Holding Caste-wise

Caste	Total land owned (in Bighas)	% of the total land	Average holding per household (Bigha)	Average holding per person (Bigha)
Brahmins	45	8	11	1.7
Rajputs	378	65	14	1.9
Harijans	157	27	8	1.8

Rajputs families (54 per cent) constitute 63.7% of the total population own 65 per cent of total cultivated land and the Harijans families (38 per cent) constituting 28.0% of total population own 27 per cent of such land. Moreover, per person average holding is almost the same.

II

Socio-Economic Relations

Almost all the households are at subsistence level and the way of living and consumption pattern are identical, irrespective of castes. It is not true that each family produces subsistence foodgrains, but the social relations ensure the subsistence for all. Discussing the economic aspect, first, we have the relations in agriculture. Although every family cultivates the land itself, yet the Harijan families help others in agricultural operations, especially in harvesting and thrashing of the main crops. Almost every Rajput and Brahmin family has a Harijan family attached to it called Bethu. One or two persons of the Bethu family invariably help in harvesting, thrashing and sometimes ploughing and erecting fences, building terraces etc. Apart from this Bethu has to perform some other functions like making of baskets/kiltas (made of straw) which are used in agricultural operations. Although it was not possible to ascertain the actual time devoted by a Bethu to the service of the Dhani (symbolic of the higher caste family to whom Bethu is attached, which may mean a rich-person), yet, from common observation, one or two members of a Harijan family devote from one to four days a year to such activities. Apart from a few privileges a Bethu enjoys, which we will discuss later, he is paid in kind for such a help. His reward, apart from two times meals a day for the days he works, is 15 kg. to 40 kg. of foodgrains each season (the region grows two crops a year). The Harijan family attached to a respected and/or greater number of Dhani's enjoys social prestige within and outside his caste. The Lohar (Black-smith) who helps in making agricultural equipments like plough, sickle, hammers, spade, axe and pick-axe etc. is also paid in kind.

Apart from this, every Harijan family is offered some extra-grains or cooked food on the first day of each month and on the festival occasions. A Bethu gets special preference at such occasions. This family is also entitled to old and worn out clothes. One is yet to see a Rajput and Brahmin family that has refused to offer, something that it has, to the Bethu on demand. These kinds of relations give one the impression, which is possibly true, keeping in view of the level of living, that the *Harijans get much more than what they really earn on the basis of the work they put in, and this fine arrangement has ensured subsistence for all.*

The Brahmins perform their usual functions and they are also entitled to grains on the first day of each month and on the festival occasions. Their domain extends beyond this region as well, and collect a substantial amount of grains from Rajputs. Although the generalization may be misleading, yet an observation can be made that each *Harijan and Brahmin family can support two members of the family out of this arrangement.* So all the three sections/castes are so much inter-dependent, although the relations seems slightly against Rajputs, that the existing set-up of the society and their relationships, if broken, the whole system would collapse. Such arrangements have become vital for the mutual existence of all.

Not in very distant past, this self-styled and near self-sufficient subsistence region 'imported' salt only. The condition has not changed to any reasonable extent. This is not, at least at present, because of static tastes, but because of utter deficiency in ready-cash. This region is almost completely non-monetized one. The social relations, whatever the stabilizing factor may be, are primitive and pre-capitalist The new functional classes have not emerged. This is mainly because of non-penetration of 'money.' The existing social system is persistent because the institution of God is deep rooted and is the ensurer of subsistence. Any break does not seem to succeed unless an alternative system emerges that enshrines the sense of security for the people, especially the down-trodden majority.

A small local shop fulfils their demands for 'outside' products where bulk of the transactions are commodity-based. The insignificant amount of 'money' that flows in is out of some casual labour put in road construction (in near-by places), selling of seasonal natural mushrooms and medicinal herbs etc. There are a few fortunate families who have regular source of 'cash' through Governments jobs. These are slightly better off families. The plight of Harijans in this regard is really depressing. The following table gives the total number of persons employed, caste and salary group-wise :

Caste	Total Persons Employed	Employment (Number of Persons) Salary-groups (Salary per month)		
		Less than Rs. 500/-	Rs. 500/- Rs. 1000/-	More than Rs. 1000/-
Brahmins	5	4	1	—
Rajputs	8	4	3	1
Harijans	—	—	—	—

Higher education, in the otherwise economically shattered region, is the monopoly of a few families who have regular source of income. Education is a luxury here, and people have, after seeing one or two unemployed fresh graduates, emphatically denounced the benefits of higher education. This attitude seems very rational. A family, at the subsistence level, educates a member by parting with the whole of their meagre savings [in valuables like gold, silver and domestic utensils), land and sometimes by raising loans etc. What else can such a family expect ? And in getting a job, odds are heavily against the candidates from such social stratum.

III

Now, we enter the most important aspect of social relations, nay, the real force behind such kind of social arrangement. This force is the stabilizing factor in this otherwise disintegrated social group. This is the institution of Devta, the local God, which has perfectly co-ordinated the different castes and ensured the subsistence for all i.e. the economic relations are also determined, to a great extent, by the same institution.

The inhabitants of two main villages, Chalhar [Rajputs] and Baloli [Harijans] are said to be ascendants of two real sisters, Chil and Bil respectively, Chil being the elder of the two. This is stated in the chronology of the origin and in the local deity, the Durga. This speaks for an inherent good-will and co-operation between the two castes. A peculiar feature, that can astonish any body, is that in spite of strong caste-consciousness where Harijans are untouchable and are not allowed to touch even the houses of Rajputs, there is a festival occasion every year when a few members of each Rajput family visit the Harijans and enter their houses where they are offered hard-nuts and baskets etc. by the Harijans.

Harijan families also keep the band [Dhol, Nagara, Trumpet etc] of the deity which they play on festival occasions. In lieu of this, these Harijan families [in possession of the instruments] are entitled to grains from Rajput and Brahmins families, and the collection is done on every festival occasion. The collection may range between 40 kg. and 80 kg. a year. Nobody has ever refused to comply with this arrangement, except, probably when a Rajput family in itself is in ruins.

Given all these arrangements and social relations, it is possible to call it a self-sufficient economy if looked from macro point of view. An individual family, irrespective of caste, may be in great difficulties, but then the cordial and well set social relations are there to bring that family up to the subsistence level. The protection, in such a case, seems in favour of Harijans. This inference may give a rosy picture of the society, but one cannot shut the eyes to the overall condition and the standard of living of the people, irrespective of castes. Applying modern standards, the conditions are in a very bad shape. It is true that mere subsistence is ensured by the social relations, but like any other 'economy' stuck up at this level, the modern advancements, change in outlook, efforts to improve living conditions are totally absent. Like so many other such pockets in our country, this very small region under study gives us a feeling that independence has given virtually nothing. A few isolated and insignificant steps cannot help such economies to become open and receptive to outside changes. Something really concrete has to be done. But, the basic problem, it seems is that the modern society and its 'protectors' have ruled out the possibility of even the existence of such primitive self-sustaining 'economies' at the level of mere subsistence. It is really the Divine-power manifested in the form of local Gods that is keeping the souls moving by ensuring a perfect balance between the castes and communities. But such condition cannot last long. We cannot expect even a small patch of land to remain as 'Virgin Land' at mere subsistence level, especially when we talk of high dams and bridges being constructed, highly sophisticated mechanical and engineering goods being produced. The increased productions of television sets, cars and refrigerators are not going to help this poor man to eat what the modern society expects him to eat. We may presume that since the production of foodgrains has increased to record height, everyone is having sufficient food to eat ; since synthetic fibre has revolutionized the textile industry, everyone is getting sufficient clothes to wear as we expect him to wear.

The most important is probably the awareness of the extent of the problems of the such 'Virgin area'. A Tehsil or a District or any other administrative unit cannot be the criterion for regional development. The concept of regional development should recognize the region as a distinct entity with homogenity in its formal and functional structure, distinct cultural traits and regional life circumstances. Apart from the biased distribution of services in favour of such virgin lands the solution to the problems should be found out from within the 'system' and not from without.

Profitability of Farm Business in Punjab

Pritam Singh and P. L. Sankhyan*

It has been a general feeling among some economists and policy makers in this country that due to the effects of green revolution agriculture has become a very paying proposition. Farmers of a state like Punjab, with assured irrigation facilities and fertile soil, are thought to have become quite prosperous. In the light of such notions, frequent arguments are advanced suggesting that a stage has come when our agriculture must also start contributing directly towards the general economic development of the country. However, detailed investigations in various parts of the country are still lacking which could help drawing useful and definite conclusions on the profitability of farming.

Farming in most parts of this country, like Punjab, is no more a way of life only but it has become a business proposition. There is no disagreement with this statement. However, while calculating income/returns from agriculture, most of us often do not proceed strictly as a businessman. The wages to family labour and management, rent for owned land and interest on fixed capital are invariably not accounted for. Therefore, the estimates of agricultural incomes may be overestimated and thus cannot be compared with the concept of income used by a businessman.

In this article, we make a systematic effort to examine the extent of profitability of Punjab farmers strictly from business point of view. This study is based on detailed data for the agricultural year 1976-77 on 136 farmers representing all the major agroclimatic zones and size of holdings in the state.

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* Asst. Prof. of Agri. Econ. and Farm Economist, respectively, Dept. of Econ. and Sociology in Punjab Agricultural University, Ludhiana.

Methodology

The data used in this study were collected in the research project entitled "An Analysis of Income and Expenditure Pattern of Punjab Farmers", carried out by the Department of Economics and Sociology, Punjab Agricultural University, Ludhiana. Multistage stratified random sampling was used with tehsils as the first stage of sampling units, the village as the second stage sampling units, and the operational holdings, as the ultimate sampling units. The state was divided into four homogeneous crop zones namely, cotton, groundnut, paddy and maize. Wheat was common to all the zones. One tehsil was randomly selected from each of the selected tehsils, three villages were further selected randomly. Three size groups of small, medium and large holdings were obtained independently in each zone with probability proportion to the cultivated area. The size groups thus formed in each zone are given in table 1.

Table I. Farm Size Classification in Different Zones of Punjab, 1976-77.

Zone	Farm Size Classification (Hect.)		
	Small	Medium	Large
I	$\leqslant 8.91$	>8.91 but $\leqslant 16.19$	>16.19
II	$\leqslant 5.67$	>5.67 but $\leqslant 9.72$	> 9.72
III	$\leqslant 3.64$	>3.64 but $\leqslant 6.48$	> 6.48
IV	$\leqslant 3.64$	>3.64 but $\leqslant 8.10$	> 8.10

Initially, twelve holdings were selected from each village for detailed regular observations and these holdings were distributed in the small, medium and large size groups approximately according to the population of holdings in the size groups which turned out to be 7, 3 and 2 in each zone. The allotted number was then selected initially as well as the current position during the year 1976-77 along with the total holdings of the three selected villages in the zone are given in Table 2.

The number of holdings in different groups of various zones during 1976 underwent a change due to inter-group movements of some farmers because of changes in their operational area. Also, three selected farmers from zone III and five farmers from zone IV have to be dropped during 1976 from the original sample due to reasons beyond our control.

The average size of operational holdings in various size groups of different zones in the study sample are given in table 3.

Table 2 : Classification of Farms in the Selected Villages into Various Size Groups in Punjab, 1975 and 1976.

Zone	Farm Size Category								
	Small			Medium			Large		
	A	B	C	A	B	C	A	B	C
I	208	21	19	76	9	10	28	6	7
II	86	21	15	39	9	13	21	6	8
III	176	21	18	69	9	8	34	6	7
IV	87	21	11	36	9	17	14	6	3
All zones	—	84	63	—	36	48	—	24	25

A=Total number in the three selected villages of the zone.

B=Number initially selected in the sample.

C=Number of holdings during the current year (1976-77).

Table 3. Average Operational Farm Size in Various Size-Groups of Different Zones in Punjab during 1976-77

(Hectares)

Zone	Farm Size Categories			
	Small	Medium	Large	Average
I	5.78	12 34	28.51	12.02
II	3.72	7.73	13.76	7.40
III	2,39	4.78	9.66	4.51
IV	2.43	5.46	11.42	4.96
All Zones	3.73	7.39	15.24	7.14

Results and Discussion

The profitability of farming was analysed from the business point of view. Therefore, various concepts of farm business income representing returns to land, family labour and fixed capital, singly or in various combinations have been discussed. This has been done on per farm as well as on per hectare basis for various agro-climatic zones of Punjab.

Farm Business Income

This is the same concept as used in Farm Management Studies conducted by the Government of India in various regions of this country. It represents the difference between total value product and all the expenses except the imputed value of farm family labour, rental value of owned land and interest on fixed capital during the year under study. Farm business income so computed may also be termed as returns to land, farm family labour and fixed capital on the farm. Farm business income per farm as well as per hectare has been presented in table 4.

It may be seen from the table that farm business income per farm showed a positive relationship with the farm size in all the agro-climatic zones. Similar trend was also observed in the pooled data of all the zones. Farm business income on small farms was the highest i.e., Rs. 13,384 in Zone I and was the lowest in Zone III, i.e., Rs. 7,744. For medium and large farms, the farm business income varied between Rs. 8,414 in Zone IV and Rs. 24,463 in Zone I and Rs. 22,486 in Zone IV and 54.857 in zone I respectively. Zone III and IV thus registered the lowest farm business income while zone I showed consistently highest farm business income on all the size categories of holdings among the four zones.

For the pooled data of all the zones, farm business incomes were Rs. 10,238. 14,624 and 33,278 on small, medium and large farms respectively. Farm business income per farm on the whole (irrespective of zones as well as categories) observed in the state was Rs. 16,022.

Table 4 : Farm Business Income* on Various Size Groups in Different Zones of Punjab, 1976-77

Zone/Size Group	Small	Medium	Large	Average
I	13,384	24,463	54,957	24,545
	(2,336)**	(1,960)	(1,928)	(2,040)
II	10,821	15,826	25,154	15,813
	(3,097)	(2,299)	(1,879)	(2,282)
III	7,744	13,570	25,510	12,925
	(3,281)	(2,842)	(2,642)	(2,877)
IV	8,091	8,414	22,486	9,661
	(3,414)	(1,508)	(1,860)	(1,906)
All the Zones	10,238	14,624	33,278	16,022
	(2,807)	(2,021)	(2,024)	(2,205)

* This concept of income represents the difference between total value product and all the expenses except the imputed value of farm family labour and rental value of owned land and interest on fixed farm capital.

** Farm business income per hectare.

The relatively higher farm business income per farm in Zone I on all categories may be mainly explained by the larger average operational size of the farm as given in table 3.

Farm Business Income Per Hectare

In order to make the figures comparable over different zones and over size groups within a zone, farm business income per farm was divided by farm size in order to arrive at the farm business income per hectare for all the farm size categories in all the zones.

It may be observed from table 4 that per hectare farm business income showed an inverse relationship with the farm size in zone I, II and III individually as well as for all the zones combined but in case of zone IV no definite relationship could be observed.

The per hectare farm business income ranged from Rs. 2,336 in zone I to Rs. 3,414 in zone IV on small farms. On medium farms, the lowest per hectare farm business income of Rs. 1,508 was observed in zone IV while the highest corresponding to the same category was to the tune of Rs. 2,842 in zone III. On the large farms, per hectare farm business income varied from Rs. 1,860 in zone IV to Rs. 2,642 in zone III.

For all the zones combined, the per hectare farm business incomes observed were of the order of Rs. 2.807, 2,021 and 2,024 on small, medium and large respectively. On the basis of an overall average, farm business income in Punjab state during 1976-77 was Rs. 2,205 per hectare which represented returns to land, farm family labour and fixed capital on the farm. Contrary to the farm business income per farm, per hectare farm business income turned out to be the highest on small farms of zone IV and on medium and large farms of zone III indicating the highest degree of economic efficiency as compared to their counterparts in all other zones.

Returns to Land and Fixed Farm Capital

This concept accounts for the imputed value of farm family labour in addition to all working costs on the farm. The superiority of this concept over that of farm business income lies in the fact that the differences in the farm incomes due to availability of family labour on different farms are properly adjusted by deducting imputed value of farm family labour from the farm business income. It may be seen from table 5 that returns to land and fixed farm capital per farm on small farms, ranged between a net loss of Rs. 118 in zone III and a return of Rs. 4,824 in zone I. On medium and large farms, returns to land and fixed capital per farm varied between Rs. 1,984 in zone IV and Rs. 13,061 in zone I and Rs. 11,821 in zone II and Rs. 40,702 in zone I respectively. For the pooled data of all the zones returns to land and fixed farm capital were Rs. 2,523, Rs. 5,084 and Rs. 21,399 on small, medium and large farms respectively. Returns to land and fixed farm capital on an average (irrespective of zones as well as size categories) were observed to be Rs. 6,897 in the Punjab state. In zone I, returns to land and fixed farm capital per farm were again highest on all size categories than that on their counter parts among all other zones. The relationship of returns to land and fixed farm capital per farm with farm size remained similar to that of farm business income per farm and the size of the farm.

Returns to Land and Fixed Farm Capital per Hectare

In order to eliminate the effect of farm size, returns to land and fixed farm capital per farm were divided by farm size to calculate returns to land and fixed farm capital per hectare and the same is given in table 5.

Table—5 : Returns to Land and Fixed Capital on Various Farm Size Groups in Different Zones of Punjab, 1976-77.

(Rupees)

Size groups Zone	Small	Medium	Large	Average
I	4824	13061	40702	14088
	(835)	(1058)	(1428)	(1172)
II	3983	7147	11821	6867
	(1071)	(925)	(859)	(928)
III	—118	6781	15789	4929
	(—49)	(1419)	(1634)	(1093)
IV	881	1984	14986	675
	(361)	(—364)	(1312)	(156)
All the zones	2523	5084	21399	6897
	(668)	(825)	(1315)	(919)

Note : Figures in the brackets are on per hectare basis.

It may be observed from the table that on small farms, the highest returns to land and fixed farm capital per hectare were Rs. 1,071 in zone II. On the other hand, small farms of zone III and medium farms of zone IV could not generate sufficient farm business income to meet the costs of farm family labour and hence resulting in per hectare loss of Rs. 49 and Rs. 364 respectively. The highest return to land and fixed capital per hectare among medium farms of Rs. 1,419 was observed in zone III. On large farms, returns to land and fixed capital per hectare ranged between Rs. 859 in zone II and

Rs. 1634 in Zone III. For the pooled data of all the zones, returns to land and fixed capital per hectare were observed to the order of Rs. 668 Rs. 825 and Rs. 1,315 in the ascending order of farm size categories in Punjab. On an overall average, returns to land and fixed capital per hectare observed were Rs. 919. This analysis revealed that small farms of zone II, and medium and large farms of zone III earned the highest profit from agriculture even after paying to the farm family labour as compared to their counterparts in all the other zones.

Net Returns to Farm Business

This concept of income represents the difference between total value product and all the farm expenses except interest on fixed capital. This measure of farm profitability accounts for the rental value of owned land. Owned land as a factor of production has its opportunity cost in terms of rent. From the business point of view, opportunity cost of the owned land should be treated as production cost to calculate profit from agriculture. Net returns to farm business were calculated by deducting imputed rent of owned land from returns to land and fixed farm capital as presented in table 6.

Table 6 shows that on the basis of this concept of farm income small farms on an average in all the zones and medium farms in zone IV were operating at a loss. For small farms, per farm loss ranged between Rs. 2,904 in zone III and Rs. 62 in zone II. On medium farms of zone IV, per farm loss observed was Rs. 5,284. The highest net returns to the farm business worth Rs. 2,074 was observed in zone III among the medium farms of all the zones. For large farms, net returns to farm business per farm were observed to vary from Rs. 458 in zone II to Rs. 6,245 in zone I.

For the pooled data of all the zones, small and medium farms on an average were operating at a loss to the tune of Rs. 1517 and Rs. 1409 respectively in the state. Net returns to the farm business per farm for large farms, however, were to the tune of Rs. 3,755. On the whole, agriculture business according to this concept of income was however going on loss to the extent of Rs. 510 per farm.

Net Returns to the Farm Business per Hectare

In order to make the results comparable net returns to the farm business per farm were divided by the farm size to arrive at net returns to the farm business per hectare (table 6).

It was observed that the net loss from the farm business per hectare on small farms was Rs. 17 in zone II followed by that in zone I, IV and III with per hectare net loss of Rs. 270,476 and 1,215 respectively. Among medium farms, per hectare net return to the farm business observed was to the tune of Rs. 434 in zone III followed by zone II, I and IV with the net returns of Rs. 41, 12 and loss of Rs. 968 respectively. In case of large farms, the highest per hectare net returns to the farm business observed was Rs. 601 in zone III followed by Rs. 219, Rs. 172 and Rs. 33 in zone I,IV and II respectively.

On the whole, for the pooled data of all zones, there were losses worth Rs. 407 and 191 on small and medium farms respectively, while on large farms there were net returns to the farm business per hectare to the tune of Rs. 246. There was an overall loss of Rs. 71 per hectare in Punjab.

On the basis of net returns to the farm business per hectare, it can be safely concluded that on medium and large farms in III, the degree of profitability was highest as compared to their counterparts in all other agro-climatic zones of the state. Small farms of zone II were most efficient on account of their least per hectare loss as compared to small farms of all other zones. On medium farms of zone IV and large farms of zone II, the net returns to the farm business per hectare were observed to be the lowest than their counterparts among all other zones. The highest profitability of medium and large farms of zone III may be explained by higher returns from the main kharif crops, i.e., paddy and sugarcane as compared to those of maize and groundnut of zone IV and II respectively.

Table 6 : Net Returns to the Farm Business* for Various Size-groups in Different Zones of Punjab, 1976-77

(Rupees)

Size Group/Zone	Small	Medium	Large	Average
I	−1,563	148	6,245	430
	(−270)	(12)	(219)	(36)
II	−62	320	456	192
	(−17)	(41)	(33)	(26)
III	−2,904	2,074	5,802	150
	(−1,215)	(434)	(601)	(33)
IV	−1,153	−5,284	1,883	−3,117
	(−475)	(−968)	(172)	(−628)
All the Zones	−1,517	−1,409	3,755	−510
	(−407)	(−191)	(246)	(−71)

* Interest on the fixed capital has not been accounted for.

Note : Figures in the brackets are on per hectare basis.

Study of Agricultural Growth Rates in Haryana

R. C. Goel and S. S. Aggarwal*

Introduction

Economic growth in India is directly a function of agriculture. Though its share has come down from 51 percent in 1960-61 to 45 per cent at present, agriculture is the single largest determinant of national income. Thus the success of our efforts for economic development of the country will largely depend upon the order of development achieved in agriculture. Agriculture holds the key for not only the aggregate aspects of development, but it is also the key factor in social development of the people, as about 70 per cent of the population depends directly or indirectly on agriculture for their livelihood. The agricultural scene today is one of our abundance of labour supply and comparative scarcity of land and capital. Under the pressure of population, the holdings have shrunk in size and have been broken into millions of uneconomic fragments. The yields are miserably low as compared to the more advanced countries of the world. The result is that even with bulk of population engaged in agriculture, enough quantities of foodgrains and raw materials are not being produced. A rapid expansion of agricultural output is urgently required to feed the large population now growing at the rate of about 3 percent per annum and to achieve the goal of self-reliance. For instance, the present production of about 125 million tonnes is just about to meet the minimum requirements. Rightly, our Five Year Plans accorded a pride of place of programmes of agricultural development in the various regions, particularly in Punjab and Haryana which sprearheaded the green revolutiou in the country. The production of foodgrains in the Haryana increased from 39.70 lakh tonnes in 1967-68 to 53.40 lakh tonnes in 1977-78. The main strategy to achieve increased production was greater use of certified seeds of high yielding varieties, adoption of balanced use of fertilizers, plant protection measures, land reclamation and water management programme etc. Thus, the tasks to be achieved during the last decade were stupendous. The higher targets present a challenge which has, 'never-the-less', to be faced and there is no other alternative.

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The magnitude of technological changes and other agricultural development programmes can be assessed either by estimating the increase in output attributed to modern inputs, or by measuring the growth in the use of modern inputs themselves. The former is beset with several problems—the non-availability of the relevant information as well as the difficulties of estimation. The latter course is more manageable and would provide a view of the future in the perspective of the past. It would be helpful in locating the weaknesses in the existing policies, in understanding the factors involved and in formulating the policies that will foster more rapid economic growth, which is the central economic problem of our time. With this perspective in view, the present study has been undertaken with the objective to examine the growth rate in production, productivity and acreage of important crops in Haryana. (1960-61 to 1976-77).

Data and Methodology

The time series data on area, production and productivity for different crops for the period 1960-61 through 1976-77 were obtained from Statistical Abstract Haryana (issued by the Economic and Statistical Adviser to Goverment of Haryana).

Productivity can be measured in terms of output per unit of labour or capital or land. In this study productivity was considered as output of per unit of land owing to the lack of data on the productivity per unit of labour or capital. The crops included for the study were wheat, rice, bajra, sugarcane, gram, American and desi cotton.

With a view to have an idea of the type of relationship exisiting between the years and the corresponding area and production of various crops scatterd diagrams were prepared. Based on the nature of the scatter of the data linear and exponential types of trend equations were fitted.

Compound growth rates of production, productivity and cropped acreage were worked out by fitting exponential functions.

Of the two types of trend equations tried, i.e. linear and exponential, the latter gave a better fit to the data invariably in all cases. As such, only exponential trend lines were taken up for further economic analysis.

Compound growth rates of production, productivity and crop acreage of different crops in Harayana are presented in Table 1, 2 and 3 respectively.

Compoud growth rates of production were highly significant from 1960-61 through 1976-77 for wheat, rice, bajra, American and desi cotton at 1 per cent level of significance (Table 1). However, in the case of sugarcane, the production growth rate was significant only at 5 per cent level of significance. Gram production actually declined but was not significant. Its standard error, indicated that this crop experienced more fluctuations in production than other crops. A high growth rate of 9.5 per cent was recorded by rice, followed by wheat (8.8 percent), desi cotton (8.0 percent), American cotton (6.6 percent) and bajra (5.9 percent) The lowest growth rate of 1.8 per cent was exhibited by sugarcane (Table 1).

TABLE : 1

Compound Growth Rates (C.G.R.) of Production of Different Crops in Haryana : 1960-61—1976-77

No.	Crop	Regression Coefficient	C.G.R. (per cent)	Standard Error of C.G.R.	t Valu
1.	Wheat	1.088	8.80	0.9865	8.92**
2.	Rice	1.095	9.50	0.9551	9.95**
3.	Bajra	1.059	5.90	1.9451	3.03**
4.	Sugarcane	1.018	1.80	0.8257	2.18*
5.	Gram	0.971	-2.84	3.9838	-0.71
6.	American Cotton	1.066	6.60	1.3218	4.99**
7.	Desi Cotton	1.080	8.00	1.0551	7.58**

** Significant at one per cent level of probability.

* Significant at five per cent level of probability.

The findings revealed that the annual growth rate of production of gram declined during this period. However, in the case of rice, wheat and bajra there had been a marked acceleration in the growth rate owing to the adoption of new technology. But in the case of American cotton the annual growth rate was lower as that of desi cotton (Table I). The reason seems to be more demand of short staple cotton as compared to long staple cotton in India. Secondly, the risk and uncertainty are comparatively more in American cotton, because of its more susceptibility to insects, pests and diseases.

TABLE : 2

Compound Growth Rates (C.G.R.) of Productivity of Different Crops in Haryana : 1960-61—1976-77

No.	Crop	Regression Coefficient	C.G.R. (percent)	Standard Error of C.G.R.	t Value
1.	Wheat	1.033	3.30	0.6517	5.06**
2.	Rice	1.042	4.20	0.7888	5.32**
3.	Bajra	1.040	4.00	1.8431	2.17*
4.	Sugarcane	1.008	0.80	0.5633	1.42
5.	Gram	0.999	-0.90	0.9571	-0.94
6.	American Cotton	1.022	2.20	0.4471	4.92**
7.	Desi Cotton	1.010	1.00	0.5200	1.92

** Significant at one per cent level of probability.

* Significant at five per cent level of probability.

TABLE : 3

Compound Growth Rates (C.G.R.) of Area of Different Crops in Haryana : 1960-61—1976-77

S.No.	Crop	Regression Coefficient	C.G.R. (per cent)	Standard Error of C.G.R.	t Value
1.	Wheat	1.054	5.40	0.3921	13.77**
2.	Rice	1.052	5.20	0.3016	17.24**
3.	Bajra	1.018	1.80	0.2956	6.09
4.	Sugarcane	1.010	1.00	0.6828	1.46
5.	Gram	0.972	-2.75	1.0586	-2.59*
6.	American Cotton	1.042	4.20	1.1996	3.50**
7.	Desi Cotton	1.069	6.90	0.8526	8.09**

** Significant at one per cent level of probability.

* Significant at five per cent level of probability.

Growth rates of productivity for different crops have been presented in Table 2. The growth rates of wheat, rice and American cotton were significant at 1 per cent level of significance where growth rate of bajra was significant at 5 percent level of significance. The rest of the crops did not show any significant growth in yield per acre during 1960-61—1976-77. Gram productivity actually declined but was not significant.

It is evident from Table 2 that the highest growth rate of productivity was 4.2 per cent in the case of rice followed by 4.0 per cent in bajra, 3.3 per cent in wheat and 2.2 per cent in American cotton. The lowest growth rate was 0.8 per cent in sugarcane. This indicates that the use of High Yielding Varieties in the case of wheat, rice, bajra and American cotton increased the productivity of these crops significantly during 1960-61 to 1976-77. The productivity of gram declined during this period because gram is sown generally in dry farming regions of the State and hence the production depends upon the extent of rain and other climatic conditions. It is also susceptible to frost specially at the time of flowering which causes flower shedding and ultimately low yields.

The crops showing a high rate of growth in productivity and output account for a high growth rate in area also (Table 3). The acreage growth rate was not significant in the case of sugarcane. Whereas gram acreage declined significantly over this period. The decline in the acreage of gram indicates shift in cropping pattern of the dry region of the State. The main reasons being the extension of irrigation water and fertilizers, associated with significant changes in the attitudes and skill of farmers and in the institutions affecting the supply of such inputs. The growth rates in crop acreage indicated highly significant increase of 1 per cent level of significance for wheat, rice, bajra and cotton (Table 3). It is true that higher profitability associated with application of yield raising technology may have induced the farmers to allocate more area to these profitable crops at the expense of others. Sugarcane area increased during this period but was not significant because of more fluctuations in the prices of sugarcane and its products. The acreage growth rate of desi cotton was higher as compared to American cotton while the growth rate of productivity was higher in the case of American cotton as evident from Table 2. The fact which is attributed to this behaviour was more demand of short staple cotton and small variation in the prices of the two varieties. Another reason was that the rabi season crop could not be sown timely in the case of American cotton sown in kharif season. While in the case of desi cotton the rabi season crop could be taken timely without any delay in sowing. In Haryana, particularly in the cotton growing tracts, the people prefer two crops in a year because of more returns to single crop in a year and hence the area under desi cotton is comparatively increasing.

Conclusion

The findings of the study revealed that both area and productivity played a significant role in boosting up the production of rice, wheat, bajra and American cotton in Haryana (1960-61—1976-77). Desi cotton area increased significantly whereas increases in productivity of desi cotton and both area and productivity of sugarcane were not significant. Gram production during the said period declined due to the significant reduction in area under gram crop.

Developing Market Facilities— The Rural Markets Under SF/MF & AL Programmes

R. C. Singhal*

The small/marginal farmers and agricultural labourers development agencies have been functioning as coordinators between participants i.e. credit institutions, development departments and extension organisations. Their main task has been to draw suitable programmes for small/marginal farmers and agricultural labourers for improved agriculture and subsidiary occupations and arrange credit for them through institutional sources. To link credit with marketing of rural products in the cooperative system the agencies have provisions to provide 2 percent rebate on interest on short term production loans if the agricultural/rural produce is marketed through cooperatives. Similarly, the agencies were also granted financial resources up to Rs. 1 lakh per market for eight registered markets in the project areas for developing the market facilities with a view to developing marketing infrastructure facilities to benefit the rural people suitably.

During the fifth plan, a provision of Rs. 200 crores was made in the central sector for these 160 SF/MF & AL development projects with a view to supplementing suitable outlays in the State plan for extension of all round infrastructural support. Cooperatives and commercial banks were set up for larger task and thus the beginning was made to provide integrated credit services through "Farmers Services Socieities" in project areas. In this way, it was tried to cover up each and every need of small/marginal farmers and agricultural labourers for their economic development in the covered areas. Thus, not to talk of developing markets facilities for them, even the provisions of customary service for their benefits were facilitated in the shape of subsidy on rates charged by the agro-industries corporations and agro-service centres from the small/marginal farmers and agricultural labourers. On community works for the benefiting groups of small/marginal farmers the agencies had to subsidise the cost up to 50 per cent.

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* Assistant Marketing Officer, Directorate of Marketing and Inspection, Government of India, N. H. IV., Haryana.

In this way, no stone was left unturned within the resources provided under the SF/MF & AL development programme without which the economic development of the covered rural population should not have been attained. Now, the question which arose in official circle too in Delhi was that the small/marginal farmers and agricultural labourers had been facing difficulties in disposing of their produces even in the areas covered under the SF/MF & AL development programme. It was thus much surprising, distressing and awful to our ultimate planners and decision makers. Therefore, studies were undertaken at various level by different agencies and basic facts relating to market development tackled by the SF/MF & AL development agencies are discussed here.

In fact, for the development of market infrastructure in rural as well as urban areas where the agricultural rural products are marketed, there are separate independent organisations dealing with the task under the respective 'Market Regulation' legislations in various states, in the country. This developmental activity is very much guided by the 'Central Marketing Organisation' i.e. Directorate of Marketing & Inspection, Government of India—the sole advisory body for the purpose. As on 31st March, 1979 about 3926 wholesale assembling markets out of 5017, have been regulated. There were 2141 wholesale assembling principal markets and 1785 submarket yards. Besides, there are about 30,000 weekly hats and majority of these are owned by the village panchayats, revenue departments of the states and market committees. Of these rural markets, very few are owned by the market committees and have been developed to the extent so as to fulfil the needs of the rural people suitably. Majority of the rural markets are yet to be developed.

Very recently, a snap study aimed for developmental purpose, that too at the instance of F. A. O., has been conducted through the state marketing organistions by selecting one or two districts in the respective states. This would probably open the way for planning the development programme to develop these rural markets for the benefit of the rural people in the country.

It is accounted that SF/MF & AL development agencies failed to not function even in the plane of so-called co-ordination for the purpose of market development that has been scheduled under the programme. Practically, the Directorate of Marketing and Inspection, the national body in the field of agricultural marketing, was not at all touched for any of the activities to develop markets which were projected to be attained by the SF/MF & AL development agencies. On the contrary, it has been observed that the funds allocated for the purpose of developing market facilities were diverted to be utilized for administrative and/or other such functions in the majority of SF/MF & AL development agencies. Why was it done ? To inquire into reasons appears not appropriate at this stage. Solely, it was for the independent-like status of the ultimate administrative committees of the projects. Probably, these were not inquired into because there was no such inquiry authority which was assigned the chartering task.

Mainly it appears that the states were practically interested in getting financial resources from central government in the name of rural development through SF/MF & AL Programme and money was spent as per their suitability. This is not only the pecuniary case of default on the part of administrators of various States in the country. There are instances where the financial assistances—funds for various development programmes—received by the States have been diverted and the ultimate objects of development have totally suffered. In fact, at central level there should have been independent chartering agency either a subsidiary of Reserve Bank (and)/or a "Lead developmental charters" or so under the Planning Commission, so as to facilitate best suited utilization of resources by the States.

In view of the facts discussed above, it is revealed that nothing could be constructed by the SF/MF & AL development agencies while they were provided huge amount of funds for developing market facilities for the benefit of the small/marginal farmers and agricultural labourers who have been identified under the programme in the country.

Compensatory Financing of Export Fluctuations

The financing of deficit arising out of export shortfalls, notably those of primary exporting member countries, has always been regarded as a legitimate reason for the use of Fund resources.

The Fund has decided that such members can continue to expect that their requests for drawings will be met where the Fund is satisfied that

(a) the shortfall is .of a short-term character and is largely attributable to circumstances beyond the control of the member ; and

(b) the member will cooperate with the Fund in an effort to find, where required, appropriate solutions for its balance of payments difficulties.

Drawings outstanding under this Decision may amount to 100 per cent of the member's quota, provided that requests for drawings which would increase the drawings outstanding under this Decision beyond 50 per cent of the member's quota will be met only if the Fund is satisfied that the member has been cooperating with the Fund in an effort to find, where required, appropriate solutions for its balance of payments difficulties. When a member makes a request under this Decision and if, in the opinion of the Fund adequate data on receipts from travel and workers' remitances are available, the member shall specify whether the receipt shall be included or excluded in the calculation of the shortfall. The choice by a member shall continue to apply for a period of five years, except in the case of a member that makes a request under this Decision prior to January 1, 1980 and elects to exclude these services at the time of the request. The existence and amount of an export shortfall for the purpose of any drawing under this Decision shall be determined with respect to the latest 12-month period preceding the drawing request.

Whenever the Fund's holdings of a member's currency resulting from a drawing under this Decision are reduced by the member's repurchase or otherwise, the member's access to this facility, in accordance with its terms, will be restored pro tanto.

In order to implement the Fund's policies in connection with compensatory financing of export shortfalls, the Fund will be prepared to waive the limit on the Fund's holdings of 200 per cent of quota, where appropriate. In particular, the Fund will be prepared to waive this limit (i) where a waiver is necessary to permit compensatory drawings to be made under this Decision or (ii) to the extent that drawings in accordance with this Decision are still outstanding. Moreover, the Fund will apply its tranche policies to drawing requests by a member as if the Fund's holdings of the member's currency were less than its actual holdings of that currency by the amount of any drawings outstanding under this Decision. When drawings are made under this Decision, the Fund will so indicate in an appropriate manner.

International Monetary System, Second Amendment, and Developing Countries

(*Continued from the previous issue*) **D. D. Guru***

The burden of adjustment under the flexible rate system would fall on such non-oil producing developing countries. As these countries are in perpetual need of financial help from the Fund, the firm surveillance excercised by the Fund would be applicable more to them. The deficit in their balances of payment to the extent of around SDR 25 billions poses a serious problem to them. In the absence of the avenues of getting resources to meet such a deficit through Fund, they have to take resort to the private international capital market especially the Euro-currency markets. There has been rapid growth of international lending by banks and through bond issues. The total international financial flows through banks (net of interbank lending) and bond market stood at $58 billions during 1975 which increased to $96 billions in 1976 and to $100 billions during 1977. The major demand for international lending through bank and bond markets was still largely for financing current account deficit and a large number of countries have been tapping private financial markets to build up external revenues particularly in 1976 and 1977.

We can have an idea about the growing importance of international lending and the growing dependence of the developing countries and the international banking in the recent years from the table[11] given below :

Table III

External Position of Banks in Group of 10 Countries and in Switzerland and the Foreign Branches of U. S. Banks in the Carabean Areas and the Far East.

(at Year end : billions of U. S. dollars)

	Banks' claims			Banks' Liabilities			Banks' Net Lending Position		
	1975	1976	1977	1975	1976	1977	1975	1976	1977
Group of 10	115.3	135.5	162.2	123.8	162.1	201.8	-8.5	-26 6	-36.6
Switzerland & other off-shore countries									
Other developed countries	40.8	54.4	70.2	33.3	35.0	41.1	7.5	19.5	29.1
Eastern Europe	21.6	28.8	32 9	6.3	7.6	7.8	15.3	21.3	25.1
Oil exporting countries	14.3	24.1	35.4	51.8	64.2	77.6	-37.5	-40.1	-42.2
Non-oil exporting developing countries	63.0	80.9	92.2	37.0	49.8	62.7	26.0	31.0	29.5
Unallocated & International Organizations	5.0	6.1	9.1	7.9	11.3	14.0	-2.9	-5.0	-4.9
Total	260.0	330.0	402.0	260.0	330.0	405.0	—	—	—

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* A. N. S. Institute of Social Studies, Patna, Bihar.

The above table clearly shows that the claims of the foreign banks have been not only very high but have been also increasing over the years for the non-oil exporting developing countries. Thus the net bank claims of the non-oil exporting developing countries stood at $26 billions during 1975 which increased to $31 billions during 1976 and was at $29.5 billions during 1977. For East European countries which also generally fall in the category of developing countries, the net lending position of the Banks was at $15.3 billions, $21.3 billions and $ 25.1 billions during 1975, 1976 and 1977 respectively. Such high degree of dependence of developing countries on international banking is quite natural because of the higher extent of deficit in balance of payments position. Temporary respite in net international lending position of these countries during 1977 is obviously on account of improvement in their balance of payments position. Among the developed countries there are clearly two groups, one having persistent deposits and the other having persistently high positive Banks net lending to them. The other group of countries having persistent net deposits is the oil exporting countries. There are also the countries with surplus in the balances of payment. The finances flow out from these surplus countries to the countries with deficit imbalance of payments through the international banking channels. The dependence of the developing countries on the international banking system exposes them to the uncertainties and they are forced to bear the full burden of adjusment in these balance of payments.

The developing countries become vulnerable to bearing the burden adjustment also on account of the frequent changes in the external values of the key currencies, which act as currencies of internation for these countries. The external values of basket of currencies especially of U. S. dollar or pound sterling in terms of which the developing countries fix the external values of their currencies change frequently under the system of flexible rate of change. The currencies of the developing countries have naturally to make frequent adjustments leading to instability in their external transactions which affect their international trade. The adjusments are obviously more severe for the developing countries on account of their perpetual vulnerability to the deficit in the balance of payments.[12]

One of the important developments in the recent years has been the tendency of growth of policy of protectionism adopted by the advanced countries against the goods produced by the developing countries. In the recent Annual Meeting of the IMF and the World Bank concerns have been expressed on the growing trend of such protectionism. Mr. McNamara cited a series of new restrictive measures imposed by developed countries against manufactured exports from the developing nation.[13] He singled out Australia, Canada, France, Norway, Sweden, the United Kingdom, the United States as well as the European Economic Community as a whole for imposing various quotas on imports of foot-wear, clothings and textiles, steel and television sets.

The basic problem facing the developing countries is the persistent deficit in their balance of payments and the need for transfer of resources from the advanced countries. The changes in the structure of International Monetary System has to be seen from the point of view of meeting the problem of increasing resource needs of such developing countries. The firm surveillance or the flexible rate of exchange system does not touch upon the problems of developing countries. The new system is more likely to aggravate the problems of the developing countries by adding to the uncertainties of the then balances of payment on account of frequent changes in their exchange rates caused due to the changes in the exchange rates of the important currencies like Pound sterling, U. S. Dollar, German Marks, Japanese Yen, etc. in terms of which the developing countries have generally fixed the external values of their currencies.

The suggestions of linking the SDR with development assistance or of making the allocations of SDRs no more for the developing countries who need them more than other group of countries have not been accepted and the second Amendment of the Articles of Agreement did not consider these suggestions as appropriate to be taken care of. The second Amendments have been rather more concerned with the problems faced by the advanced countries. The thinking has probably been that the solution of the international monetary problems of advanced countries would be able to bring about sounder international monetary system which the developing countries will be also beneficiaries. But it is not realised that the problem of perpetual deficit in the balance of payments of the deficit countries is not going to be solved through the solution of the international monetary problems of the advanced countries. One group of developing countries, viz. the petroleum producing countries (OPEC), had to devise a strategy to solve their problem of shortage of resources by collectively raising the price of oil which had as we have felt far-reaching consequences in the world economy and the international monetary system. It would be no wonder if other set of developing countries would be forced to take up measures of raising the prices of other essential commodities used as raw materials by the advanced countries in order to force the flow of resources from the advanced countries to the developing countries. If any such movement is not being taken, it is not because there is no possibility of reaping advantages through such moves but because due to the political and other factors agreements between the developing countries are not becoming possible.

References

1. John Williamson, Failure of the World Monetary Reform 1973-74. New York University Press, New York 1977, p.53.
2. Report of Economic Advisers to President. Washington, 1978.
3. I. M. F. Survey, Vol. 7.
4. I. M. F. Survey.
5. I. M. F. Survey, Vol. 7, No. 7, p. 99.
6. Ibid.
7. Ibid.
8. Ibid.
9. IMF Survey, Vol. 7, No, 9, p. 133.
10. Puey Uncyphakoon, 'Steps to International Monetary Order', Tokyo, 1974, p 4.
11. Gruder, M. C. Vonverging Interest, Finance and Development, Vol. 15, No. 4, Dec. 1978, Washington DC, pp. 23.
12. Ibid.
13. I. M. F. Committee of Twenty Reports, June 24, 1964, Washington, pp. 95-109, pp. 183-207.

Distributional Impact of Export Growth

K. N. Pathak*

Pursuance of the export promotion policy resulted in improving the performance of India's exports. Export-led growth as a strategy of India's economic development was adopted by our Government at the time of the commencement of the Third Five Year Plan. Till then, the emphasis was largely on import substitution and the accent of foreign trade policy was on strict control of imports. The shift in emphasis could be attributed to the growing awareness that if the Indian economy was ever to obtain its objective of self-reliance, it was necessary that an increasing proportion of the external resources required to finance economic development be met from export earnings. Consequently, in the Third Plan, exports were given a high priority, and export promotion was envisaged as a major plank of economic policy. A variety of export promotion measures including cash assistance scheme, fiscal concessions, export-oriented import policy, direct financial incentives and marketing assistance were introduced on a wide scale. Since then, these export measures were followed vigorously and the Government's expenditure on foreign trade and export promotion rose sharply. The Government of India's budgetary allocation on foreign trade increased from Rs. 2.10 crores in 1965-66 to Rs. 295.93 crores in 1976-77.

The performance was particularly noteworthy in the last five years. The total value of India's exports at Rs. 5,143 crores in 1976-77 marked an increase of 27 percent over 1975-76 and 23.5 percent over 1970-71. An export growth of 27 percent was considerable when compared to the annual average growth rate of 1 percent during the First Plan period, 2 percent during the Second Plan and 4 percent during the Third Plan period Another indicator of the performance of export sector is the contribution it has made to the country's Gross National Product. The share of exports in India's GNP increased from 4.19 percent in 1970-71 to 11 99 percent in 1976-77. Similarly, the role of exports of manufactures was also substantial in sustaining domestic production. In many industries such as textiles, engineering, steel, leather etc. exports have accounted for a substantial volume of production.

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* Dept. of Economics, V.V. (P.G.) College, Shamli (Muzaffarnagar), U.P.

The export growth affects the economy in a number of ways. The effects of India's export growth have been examined in detail by some experts who have analysed the implications of improved export performance for the various macro-economic variable such as savings and investment, level of technology, etc. However, the issues relating to the distributional impact of export growth still remain to be examined. This is an area where there appears to be hardly any economic literature. In fact, a proper assessment of the impact of the export growth on development needs to be looked into from the angle of income and wealth distribution, since employment expansion and equitable income distribution are most important elements of development policy. Therefore, the enquiry must be to find out whether the benefits of export growth have percolated to the low income strata of society. How much is the contribution that the existing pattern of trade has made towards the desired change in income and wealth distribution ?

The term income distribution in the Indian context can be taken to mean a reduction in the concentration of economic power and wealth and eradication of poverty. This implies an increase in the share of the poorer sections of society in the national product. Such a desired change in the income distribution has to be seen for the economy as a whole since the pattern of income distribution brought about by the growth in each of the sectors cannot be analysed separately due to the non-availability of systematic information about the inter-relationship among the pattern of production and corresponding process of income generation among various sectors. The proposition to analyse the pattern of income distribution becomes all the more difficult in the case of export sector, considering the effect of export growth on the country's additional import capacity and savings and investment Nevertheless, an attempt can be made to find out to what extent reduction in inequality could be brought about through a change in the ownership of production assets and additional employment creation on account of export growth.

Income distribution is basically a question of distribution of wealth and production assets, and therefore, an examination of the ownership of export production can reveal the pattern of distribution of income that the export growth generates. That is to say, whether an export commodity is produced in the organised large-scale sector or in the small scale sector. Secondly, the type of technology used in the export production is an important determinant as far as employment position is concerned The extent to which export production is capital intensive or labour intensive will determine the level of employment in an exporting unit. The creation of additional employment by increasing exports is a major benefit that society can derive from the export growth.

This paper seeks to examine the distributional impact of the export growth during the period 1965-66 to 1977-78 from the angle of ownership of export production and the extent to which export production is capital intensive or labour intensive. It must be stressed that an assessment of the impact of export growth on income distribution must be viewed in a restricted sense as the income distribution is largely influenced by the various policies enunciated by the Government from time to time. Further as the coverage of the study cannot be taken as applicable in respect of those commodities which are not covered under the study. This is because the characteristic features governing most of the primary commodities differ from those of manufactured commodities in several respects.

Export Growth and Level of Dependence

There has been a very marked expansion in the value of exports of semi-processed and manufactured goods from India as is evident from the table below.

The value of exports of these commodities increased by more than three times from Rs. 592.5 to Rs. 2062 3 within 12 years. This reflects an annual growth rate of 13.3 percent as compared to the growth rate of 6.9 percent in the case of primary commodities. However, the share of manufactured and semi-manufactured goods in the country's total exports did not show any appreciable increase. It increased only from 46.7 percent to 51.0 percent during the period.

Value of Exports and Share of Exports in Total Output In crore rupees

	Commodities	Value of Exports		Percentage Variation
		1965-66	1977-78	of 1975-76 over 1977-78
1.	Cotton goods	13.1	39.6	202.3
2.	Leather goods	44.8	101.5	349.8
3.	Cashew nuts	43.1	96.1	123.0
4.	Jute goods	288.0	250.9	— 12.9
5.	Art Silk	7.6	15.4	102 6
6.	Readymade garments	4.5	146.4	3153.3
7.	Wool and Woollens	12.0	72.4	503.3
8.	Sugar	16.5	472 3	2762.4
9.	Iron and Steel	13.1	68.0	419.1
10.	Chemicals & Goods	14.4	85.3	492.4
11.	Vegetable oils	10.1	39.5	291.1
12.	Mill-made cloth	74.3	121.6	63.7
13.	Engineering goods	26.2	413.0	1476.3
	Total	592.5	2062.3	248.1

Source: Annual Survey of Industries and Director-General of Commercial Intelligence and Statistics.

Of these goods, the largest increases in exports recorded during the period were in ready-made garments, sugar, engineering goods, woollens and chemicals, iron and steel and leather. The other commodities which showed improvement in exports were vegetable oils, cashew nuts and art-silk. However, export of jute goods over the period under study declined showing a negative variation of 12.9 percent. The increases in the exports of iron and steel, engineering goods, chemicals, sugar, ready-made garments and leather goods were due to both an increase in unit value and in quantum. The decline in the value of export of jute goods is mainly due to a fall in the quantity of its exports. The quantity of jute goods exported declined from 9 lakh tons to 5.22 tons only. Thus, in case of many of the semi-manufactured and manufactured goods the value realisation has moved up at a faster rate than the quantity.

Another interesting observation is the relationship between the performance of exports of each industry and the share of exports in its total output. It can be seen from the table that the majority of the commodities which accounted for the largest increase in the value of exports belonged to those industries in which exports accounted for only a small share of the total output. For instance, in the case of sugar, though its share of exports in the total output was only less that 10 percent, the value of exports rose from 16.5 crores in 1965-66 to Rs. 472.3 in 1977-78. At the same time in the case of export-oriented industries such as cashew nuts, handloom, jute goods, the increases in the value of exports were comparatively lower. Over the period the value of exports of industries with exports constituting less than 10 percent of total output increased by almost 676 percent as against an increases of only 50 percent in the case of industries having a share of more than 40 percent as exports in the total output.

Ownership Pattern of Export Production

The objective of an analysis of ownership pattern of export production is to determine whether an export commodity is produced by a large-scale industry or a small scale industry. The commonly used norm to determine the size of a unit is the fixed capital of the factory as on the closing day of the accounting year. According to the definition given by the Government, an undertaking having investment in fixed assets, plant and machinery, not exceeding Rs. 10 lakhs is classified as a small scale industry. We have used this definition in this article.

The data relating to the fixed capital of each industry are drawn from the CSO's Annual Survey of Industries. The reported value of fixed capital for all individual units is averaged out to determine as to in what range of fixed capital each industry engaged in export production is placed. In some cases, due to the non-availability of the data uniformly for all the years, the data on fixed capital relate to the period 1973 74 to 19 7-78. The ownership pattern of export production is given in the following table :

Ownership Pattern of Export Production

Crore of rupees

Range of capital	Percentage share of industries in the total exports of goods 1965-66 Percent	Total Rs.	1977-78 Percent	Total Rs.
Large scale sector				
(a) Iron and Steel	2.21	13.1	3.30	68.0
(b) Sugar	2.79	16.5	22.90	472.3
(c) Chemicals	2.43	14.4	4.14	85.3
(d) Jute goods	48.61	299.0	12.16	250.9
(e) Mill cotton goods	12.54	74.3	5.90	121.6
Total	68.58	406.3	48.40	998.1
Small scale sector				
(a) Engg. Goods	4.42	26.2	20.02	413.0
(b) Woollens	2.03	12.0	3.51	72.2
(c) Footwear	1.38	8.2	1.03	21.3
(d) Vegetable oil	1.71	10.1	1.92	39.5
(e) Leather goods	7.56	44.8	9.77	201.5
(f) Readymade garments	0.76	4.5	7.10	145.4
(g) Art Silk	4.08	24.2	9.52	196.2
(h) Cashew nuts	7.27	43.1	4.66	96.1
(i) Handlooms	2.21	13.1	1.92	39.6
Total	31.42	186.5	51.60	1064.2
Grand Total	100.0	592.5	100.0	2062.3

Source ; Annual Survey of Industries and Director General of Commercial Intelligence and Statistics.

It can be seen from the above table that the industries in the large scale sector engaged in export production are losing while those in the small sector are gaining. It may also be seen from the table that during the period under study over 50 percent of the total exports of semi-manufactured goods were generated from the large scale sector. Of the large scale industries sugar, jute and cotton goods accounted for the largest share of exports. Over the years, the share of exports of the large scale sector did show a decline. Their share in exports decline from 68.52 percent in 1965-66 to 48.10 percent in 1977-78. The share of jute manufactures in the total exports of goods declined heavily.

Smallscale industries accounted for almost half of the total exports of goods during the period under review. Among the small scale industries, engineering goods, leather goods, ready-made garments accounted for the largest share of exports and also these industries were mainly reponsible for the increase in the share of small scale sector in the total exports. The share of other small scale industries, in the total exports showed a downward trend. The downward trend was pronounced in the case of footwear, vegetable oils, cashew nuts, art silk and handloom.

The table also reveals that in the case of large scale sector except for jute goods, other industries covered under the study had a relatively a small share of their output as exports. Their dependence on exports varied between 5 and 10 percent of the total output. However, the share of exports of jute manufactures in the total output amounted for 40 percent to 50 percent. The case of small scale sector was different. This goes to show that there exists an inverse relationship between the amount of capital invested and the dependence on exports. That is to say the higher the capital invested in the unit the lower is the dependence on exports and vice versa.

Technology Used in Export Production

As far as technology is concerned, the most commonly made distinction is between 'capital intensive' and 'labour intensive' activities. This classification of industries-labour and capital intensive-can be made on the basis of the data on the fixed capital and the number of persons employed in any industry. These figures tell us what amount of fixed capital is required for employing a person. In the study, the ratio of fixed capital to labour is used to classify the type of technology used in the export production. It may be seen that labour includes all types of employees engaged in the production process. According to the report of the All-India Census of Small Scale Industries, the ratio of employment for 1 lakh of rupees in fixed assets is 16. This means that Rs. 6250 worth of fixed capital is required for employing one person in a small unit. This ratio derived from the census data is used in the study to distinguish between labour intensive and capital intensive activities. It may be recalled that small industries are generally taken as labour intensive as compared to large scale industries. The following table relates to the fixed capital-labour ratio.

Technology Used in Export Production

Crore of rupees

Category	Percentage share of industries in the total export of goods 1965-66 Percent	Total Rs.	1977-78 Percent	Total Rs.
Capital Intensive Industries				
(a) Iron & Steel	2.21	13 1	3.20	68.0
(b) Chemicals	2 43	14.4	4.14	85.3
(c) Engg. goods	4.42	26.2	20.02	413 0
(d) Sugar	2.79	16.5	22.90	472 3
Total	11 85	70 2	50 36	1038.6
Labour intensive Industries				
(a) Vegetable oil	1 71	10.1	1.92	39.5
(b) Leather goods	7.56	44.8	9.77	201.5
(c) Mill-made cloth	12 54	74.3	5.90	122.6
(d) Woollens	2 03	12.0	3.51	72 4
(e) Footwear	1.38	8.2	1.03	21.3
(f) Readymade garments	0.76	4.5	7.10	146.4
(g) Jute goods	51.41	304.6	13.08	269.9
(h) Art goods silk	1.28	7.6	0.75	15.4
(i) Handlooms	2.21	13.1	1.92	39.6
(j) Cashew nut	7 27	43.1	4 66	96 1
Total	88.15	5-2.3	49.64	1023.7
Grand Total	100. 0	592.5	100. 0	2062.3

Source : Annual Survey of Industries for data on capital labour ratio.

The share of capital intensive industries show an upward trend. It moved up from 11.85 percent in 1965-66 to 50.36 percent in 1977-78. This upward trend in the share of exports of capital intensive industries is accompanied by a declining tendency of the share of labour intensive industries in the total exports. From the level of 88.15 percent in the total exports in 1965-66, the share of labour intensive industries declined to 49 64 percent in 1977-78.

Among the labour intensive industries, jute goods, leather goods, cotton fabrics, cashew nuts and ready-made garments accounted for the largest share of exports. They together constituted about 55 percent of the total exports of finished goods during the period under study. Cashew nut industry with 6 percent share in the total exports is highly intensive It can also be inferred that industries in the range of capital labour ratio of Rs. 4000 to one labourer and below showed a sharp decline in their exports. At the same time, the share of other industries in the labour intensive group showed more or less a consistent trend. This implies that the growth in exports of semi-process and manufactured goods came largeley from the capital intensive industries, while the highly labour intensive units contributed increasingly smaller share to the total exports.

It can also be seen that inudstries with lower capital intensive are highly dependent on exports. Industries like handloom with 75 to 80 percent of the total output as export had the highest dependence, followed by cashew nuts, jute goods, art silk, etc. In the case of industries with high capital intensity, the dependence on exports was less than 10 percent of the total output.

Conclusion

There has been a marked expansion in the value of export of semi-manufactured and finished goods from India during the period under review. The export expansion was significant in both large scale and small scale sectors. The share of the large-scale sector in total exports did fall during the period 1965-66 to 1977-78, owing to the sharp decline in the exports of one of the major commodities viz, jute goods. Export of large scale industries other than jute manufactures, though fluctuated over the period, showed an upward trend. On the other hand, the share of the small scale sector in the total exports showed a perceptible increase over the years. However, the increase was generally large among the small scale industries. The share of exports of the smaller among the small scale industries with less that then Rs. 2 lakh fixed capital declined sharply. Those industries which showed improvement in exports had relatively lesser dependence on exports in their total output. Hence, the export performance of these industries was only a subsidiary function while catering to the domestic market constituted their major activity. At the same time, the smaller among the small scale industries had a high degree of dependence on exports.

It is also revealed that export performance of industries with high capital intensity was remarkable during the period, while the share of labour intensive industries in the total exports showed a declining tendency throughout the period. The share of highly labour intensive industries in the total exports also showed a sharp fall. Though it may be admitted that the export performance of capital intensive industries has enlarged the scope for employment generation both directly and indirectly through employment linkage, additional employment creation would have been much higher had the labour intensive industries showed a better export performance.

Thus, the expansion of exports of semi-manufactured and finished goods during the period under review had benefited mostly the large scale capital intensive industries and the larger among the small scale industries. It is true that small scale and labour intensive industries could expand their exports to an extent and threby contribute towards an avowed objective of reduction in inequality of wealth and economic power, but the inequality would have been reduced by a larger extent had these industries strived to secure a larger share in the total exports of semi-manufactured and finished goods.

References

1. Economic Survey, 1977-78.
2. Foreign Trade Regimes and Economic Development by J. N. Bhagwati and T. N. Srinivasan.
3. Rich and Poor Countries by Hans Signer and Javed Answari.
4. A First Approach to Trade Liberalisation, Employment and Income Distribution by H. W. Signer.
5. Annual Surveys of Industries.
6. Export Figures of Director General of Commercial Intelligence and Statistics.
7. Commerce.
8. Economic Times.
9. Annual Reports of the Federation of Chambers of Commeree and Industries.
10. Annual Reports of the Director of Small-scale Industries, Govt. of India.

Changes in the Pattern of Cost, Productivity and Farm Income Distribution in Punjab– A Case Study of Ferozepur District

A. J. Singh, S. S Miglani and Tirath Singh*

With the rapid adoption of new farm technology in Punjab agriculture since 1965, significant transformation has occured in the structure of the farm bussiness holdings. These include shifts in size distribution and tenurial patterns, resource use and productivity and more importantly the changes in the pattern of farm income distribution. This study is, therefore, intended :

1. To examine the intertemporal changes in the cost, productivity and farm business income, and
2. To examine wheather the inequality in farm business income has increased over time.

Methodology

In order to examine the shifts in the stucture of farm holdings, it was imparative to search for some benchmark. Such a benchmark was fortunately available in the "Studies in the Economics of Farm Management" which were conducted over the period 1967- 0 for Ferozepur District. The sampling design of this study was multistage stratified random sampling with villages as the primary and operational holdings as the ultimate units of study. Based on the soil-crop climate complex, Ferozepur district was divided into three zones viz maize-wheat, paddy wheat and cotton-wheat zones. The cultivated area in these zones worked out in the proportion of 3:5:7 respectively. Sample villages were, therefore, selected from these zones in this proportion. Thus three villages were selected randomly from maize-wheat zone, five from paddy-wheat and seven from cotton-wheat zones respectively with probability proportional to the cultivated area in these zones The sample comprised 10 farmers each from 15 selected villages growing a total of 150 observations. For the purposes of this study the data were collected from the same set of farmers from the same villages for the year 1973-74 and compared with the stuctural parameters for 1967-68 from the Farm Management Studies, Ferozepur District noted above.

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* The authors are working as Assistant Professor of Economics, Associate Prof. and Head, Home Management, and Assistant Statistician respectively at the Punjab Agricultural University, Ludhiana.

Changes in the Value of Inputs per Cultivated Hectare and Per Farm

It would be seen from Table I that the total input per-cultivated hectare and per farm increased phenomenally over the period 1967-68 to 1973-74. The total cost per hectare of cultivated area increased from Rs 1544.86 to Rs. 2636 29 and the total cost per farm increased from Rs. 131[illegible]7.55 to Rs. 30581.18 over the period 1967-68 to 1973 74. Total cost per hectare did not exhibit any definite trend with farm size although total cost per farm showed a tendency to increase with size as expected.

Changes in the Value of Output Per Hectare and Per Farm

A comparison of the output per hectare of cultivated area in 1973-74 with that in 1967 68 showed an increase of more than 114 per cent (Table II). Further, output per cultivated hectare showed the tendency to decline with farm size in 1973 74, whereas output per cultivated hectare exhibited a tendency to increase with farm size in 1967-68 except for size group I.

Although on per cultivated hectare basis, the sharpest increase in output took place on the smallest two size categories of farms, yet on per farm basis, the sharpest increase took place on size category IV followed by size category II. The lowest increase in output per farm was witnessed in the case of the smallest and largest size categories. This could perhaps be explained by the fact that the smallest size category might be experiencing difficulties in getting the physical supplies of crucial inputs like quality seeds, chemical fertilizers etc which are pre-empted by the larger size categories because of their better control over the credit and institutional structure ; the largest size category might be facing diseconomies of scale in the management of large sized farms.

Net Income Per Hectare and Per Farm

Net income per hectare rose sharply from Rs. 254.34 in 1967-68 to Rs. 1220.91 in 1973-74 and net income per farm from Rs. 2660.66 in 1967-68 to 14892.94 in 1973-74 (Table III). Net income per hectare increased with increase in farm size in both 1967-68 and 1973-74. Further, it would also be seen that per cent increases were the sharpest on the smaller size categories as compared to large size categories of farms.

Family Labour Income

Family labour income includes net farm income plus value of unpaid family labour. As can be seen from Table IV, the family labour income per hectare increased from Rs. 472.17 to Rs 1479-30 and the family labour income per farm increased from 4389.50 to 17201.66 over the period 1967-68 to 1973-74. It would also be seen that the per cent increases in family labour income on both per hectare and per farm basis were higher on smaller size categories as compared to larger ones.

Farm Business Income

Farm business income represents income from family labour, owned land, owned capital and management. As would be seen from Table V, the farm business income per cultivated hectare increased from Rs. 982.79 to Rs. 2251.89 and per farm it increased from Rs. 8737.42 to Rs 26550.24 over the period 1967-68 to 1973-74. However, what is of crucial significance is how the increase in farm business income has been distributed according to size both on per cultivated hectare basis and per farm basis. It would be seen that the sharpest increase in farm business income per hectare took place on the smallest size category of farms and lowest on the largest size category. But on a per farm basis the sharpest increase took place in size groups 3 and 2.

Quantification of Degree of Inequality

A simple tabular analysis is, however, insufficient to portray precisely as to how the degree of inequality in farm business income has varied over the period under analysis. Fortunately, Gini ratios provide a quantitative measure of the degree of inequality. Gini ratios were, therefore, calculated for different size groups for different zones at the two points of time. The results are presented in Table VI.

It would be seen that their has occured a decline in farm business income inequality over the period 1967-68 to 1973-74 as reflected in the decline in the Gini Ratios for zones I and II and a relative stagnancy in Gini Ratio for Zones III. So, on the whole there is a trend towards more egalitarian farm business income distribution.

Conclusion

From the foregoing analysis, it would be seen that whereas cost per hectare did not exhibit any relationship with size both in 1967-68 and 1973-74, value of output per hectare showed a tendency to increase with farm size in 1967-68 but showed a tendency to decline with farm size in 1973-74. Net income per hectare increased with increase in farm size in both 1967-68 and 1973-74.

The study also indicated that the sharpest increase in farm business income took place on the smallest size category of farms and the lowest on the largest size category. There has been a trend towards narrowing down of farm business income inequality over the study period So the technological breakthrough in Punjab agriculture has really proved a boon by opening up vast vistas for agricultural development.

Table I

Total Input (Cost C) Per Hectare and Per Farm
Ferozepore District of Punjab, 1967-68 and 1973-74

Size Group (hects)	Per Cultivated Hectare 1967-68 (Rs.)	1973-74 (Rs.)	Percentage Increase	Per Farm 1967-68 (Rs.)	1973-74 (Rs)	Percentage Increase
Below 6	1863.88	2847.38	52.76	8266.82	11323 05	36.91
6- 9	1531 83	2742.25	78.20	12102.43	20015.69	65.38
9-14	1511.51	2480.94	64.13	17495.85	27864.48	59.26
14-24	1448.50	2593 03	79.01	26180.30	45796.27	74.92
24 and above	1152 14	2340.35	103.13	36026.41	77750.60	115.81
Overall Average	1544.86	2636.29	70.60	13197.55	30581.18	132.00

Table II

Comparison of Output-Input Ratios per Hectare and Per Farm Ferozepore District, Punjab, 1967-68 and 1973-74

Size group	Per Cultivated Hectare		Per Farm	
(Hectares)	1967-68	1973-74	1967-68	1973-74
Below 6	104.95	150.77	109.48	148.41
6-9	109.99	141.10	113.78	141.38
9-14	116.84	143.68	114.71	114.66
14-24	128.59	139.19	123.27	147.42
24 and above	168.78	156.57	170.64	157.08
Overall Average	116.46	146.31	120.16	148.69

Table III

Net Income Per Hectare and Per Farm, Ferozepore District, Punjab, 1967-68 and 1973-74

Size Group	**Net Income Per Hectare**			**Per Farm**		
(Hectares)	1967-68	1973-74 (Rs.)	Percentage increase	1967-68	1973-74 (Rs)	Percentage increase
Below 6	-17.68	1455.42	1328	784.52	5595.64	613
6- 9	153.81	1127.08	633	1667.92	8282.80	387
9-14	254.52	1083.75	326	2575.23	12446.94	393
14-24	341.74	1016.32	197	7093.35	21708.73	256
24 and above	792.39	1324.17	67	25450.67	44382.19	74
Overall Average	254.34	1220.91	380	2660.66	14893.94	460

Table IV

Comparison of Family Labour Income Per Hectare and Per Farm of Sample Farmers, Ferozepore District, Punjab 1967-68 and 1973-74.

Size group (Hectares)	Per Hectare 1967-68 (Rs.)	Per Hectare 1973-74 (Rs.)	Per Hectare Percentage increase over 1967-68	Per Farm 1967-68 (Rs.)	Per Farm 1973-74 (Rs.)	Per Farm Percentage increase over 1967-68
Below 6	265.08	1817.79	586	2373.26	7293.88	207
6-9	393.11	1476.60	276	3085.22	10794.20	250
9-14	314.58	1299.21	313	4814.39	14899.00	209
14-24	488.88	1160.15	137	8613.12	14263.75	182
24 & above	451.47	1401.80	65	27229.02	43382.18	59
Overall Average	472.17	1479.30	211	4389.50	17201.66	291

Table V

Comparison of Farm Business Income Per Hectare and Per Farm Ferozepore District, Punjab, 1967-68 and 1973-74

Size groups	Per Cultivated Hectare 1967-68 (Rs.)	Per Cultivated Hectare 1973-74 (Rs.)	Per Cultivated Hectare Percentage increase	Per Farm 1967-68 (Rs.)	Per Farm 1973-74 (Rs.)	Per Farm Percentage increase
Below 6	828.33	2638.17	218	4795.97	10171.81	112
6-9	908.85	2189.40	141	7123.66	16563.59	132
9-14	927.27	2063.68	123	10198.28	25483.07	150
14-24	994.57	1968.83	98	17613.29	38472.32	118
24 & above	1321.35	2191.72	66	42184.33	73891.76	75
Overall Average	982.79	2251.89	129	8737.42	26550.24	202

Table VI

Gini Ratios for Farm Business Income in the Study Area, 1967-68 and 1973-74.

	1967-68	1973-74
Zone I	0.41	0.28
Zone II	0.44	0.32
Zone III	0.45	0.47
Overall	0.45	0.42

Distributive Justice in the Rural Sector with special reference to Orissa

Satchidananda Patnaik*

The central objective of planning in our country has been to initiate a process of development which will raise the living standards of the teeming millions. To realise this end, the development strategy adopted in our plans—particularly the first four Five-year Plans—was dominated by the objective of growth of the gross national product. Higher growth rates in the national output were sought to be attained through expansion of heavy industries whose spread effects were expected to percolate to the weaker sections and less developed regions of our society. Thus it was assumed that the very process that would promote growth would automatically take care of the problem of distribution. Careful consideration was not given to the argument that, while sustained improvement in real output was a necessary condition for ushering in a just socio-economic order, it was not a sufficient condition. Development was commonly understood in simple terms of economic growth, i. e. growth of aggregate production or income. It was clearly forgotten that economic development is a much broader problem of "the movement upward of the whole social system".

The strategy adopted by us, based on the assumption that poverty can be taken care of through growth, has falsified our hopes. The main reason behind this is that the economic structure of our country, characterised by shocking inequalities, has pevented the diffusion of the benefits of growth from those who deserve it most. This, at the same time, has strengthened the economically stronger groups and emboldened them to resist and frustrate all future attempts to wipe out their privileged positions. We now confront a situation in which "the most cherished goals seem to be almost as distant to-day as when we set out on the road to

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* Department of Economics, Christ College, Cuttack, Orissa.

planned development".[1] Poverty, inequality and unemployment have been aggravated even after the implementation of five Five-Year Plans. The main reasons for this sad state of affairs, now discovered, are unequal ownership of land and other productive assets, an allocative mechanism which discriminates in favour of the owners of wealth, and a pattern of investment and technical change which is biased against labour.

This experience underlines the urgent necessity of putting emphasis on greater economic equality. In fact, contrary to the ordinary belief, economic growth and greater economic equality are not in conflict and the latter is almost a condition for more rapid growth. It is this realisation that has brought up the problem of the marginal and small farmers who constitute the most important and neumerically the largest neglected economic group in our country.

Inequality in land ownership

Table 1 shows the extent of inequality in the distribution of land in India. Table 2 indicates the severe inequality in the ownership of land in Orissa Out of an agricultural working population of 130 millions in 1971 in the entire country, 78 millions (or 60 per cent) were cultivators, 47.5 millions were labourers, and 4.3 millions were engaged in activities allied to agriculture. It follows that nearly 40 per cent of the agricultural working population lack any secure economic base ; they are landless. Table 1 shows that 50 6 per cent of the total operational holdings are in the size-group of less than one hectare, and 19 per cent, being included in the size-group of 1 to 2 hectares, are described as small. Thus, of the total 78 millions cultivators, seventy per cent or 54 millions are marginal and small farmers. Such a large proportion of small farmers possesses only 21 per cent of the total cultivated area. 15 per cent of the farmers, having holdings of 4 hectares and above, own nearly 60 per cent of the entire cultivated area.

Table 2 shows the pattern of land ownership in Orissa. It shows that in 1970-71 nearly 43 per cent of the operational holdings in Orissa were marginal farms, as these were included in the size-group of less than one hectare. These marginal farms accounted for

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[1] Draft Fiver Year Plan 1978-83, p. 2.

Table 1

Size distribution of operational holdings in India (1970-71)

Size group in hectares	Number (%)	Total area (%)
Less than one (marginal farmers)	50.6	9.0
1.0—2.0 (Small)	19.0	11 9
2.0—4 0	15.2	18.5
4 0 and above	15.2	60 6
Total	100.0	100.0

Source : All-India Report on Agricultural Census, 1970-71.

Table 2

Distribution of holdings in different size-groups in Orissa

Size-groups (hectares)	1970-71		1976-77	
	Percentage of holdings	Percentage of cultivated area	Percentage of holdings	Percentage of cultivated area
0-1	43.30	11.94	46 59	14 85
1-2	32 90	26 57	29 11	25 51
2-4	13 28	21 13	16.79	27 84
4-10	9.08	27.84	6 51	22.71
10 & above	1.44	12 52	1 00	9 09
Total	100. 0	100. 0	100 0	100. 0

Source : "Agricultural Census, Orissa, 1976-77", Board of Revenue, Orissa.

nearly 12 per cent of the total cultivated area. The percentage of marginal farms and the area covered by these holdings went up approximately to 47 and 15 respectively in 1976-77. One-third of the total holdings in Orissa covering nearly 26.5 per cent of the total cultivated area had been included in 1970-71 in the size-group of 1-2 hectares and hence was considered as small farms. The percentage of small farms and the percentage of the total cultivated area covered by these holdings stood at 29 and 25.5 respectively in 1976-77. In other words, marginal and small farms taken together constitute 76 per cent of the cultivated holdings in Orissa and nearly 40 per cent of the total cultivated area come under these two size-groups. The corresponding figures for the country as a whole are 69.6 and 20.9 per cent respectively. It follows, therefore, that the number of small farmers and holdings is much greater in Orissa compared to the country as a whole. With small patches of land and irrigation facilities hardly reaching 20 per cent of the net sown area, it would not be far from truth to say that nearly 76 per cent of the rural households in Orissa suffer from poverty on account of severe under-employment Such an economic structure necessitates a strategy of planned economic development which has a redistributive bias built into the whole spectrum of its production, distribution and employment policies In fact, in view of the gross inequalities in the ownership of land, Myrdal writes that "greater equalities in the underdeveloped countries is almost a condition for more rapid growth".[1]

Reasons for redistribution of land

Myrdal supports greater equality in the context of these countries for the following reasons :

(a) The usual argument that inequality favours growth of savings has little relevance in the case of under-developed countries, where landlords and other rich people are known to squander their incomes for consumption, conspicuous investment, and sometimes, in capital flight

(b) As large masses of people in underdeveloped countries suffer from undernutrition, malnutrition and other serious defects in their levels of living and since this impairs their willingness and ability to work, it results in adverse effects on productivity. It follows from this that measures to raise income levels for the masses of people would enlarge the level of production.

(c) Social inequality is related to economic inequality, each being both the cause and effect of the other. Greater economic equality would beyond doubt lead to greater social equality. As social inequality is quite generally detrimental to development, the conclusion must be that through this mechanism also greater equality would lead to higher productivity.

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[1] "The Challange of World Poverty", G. Myrdal, p. 68.

Apart from the above reasons, land redistribution will increase employment in agriculture because small holdings systematically employ more labour per hectare than large holdings.[1] And, there need be no loss of productivity per hectare because, given equal access to credit and material inputs, small farms yield more output per hectare than large farms.[2]

It is the established policy in our country that preference should be given to landless households in the allotment of surplus land after imposition of ceilings. Various surveys have shown that even with small holdings of a hectare or less, the landless families can cross the poverty line if the holdings are irrigated and income from crop production is supplimented by income from animal husbandary, fishery, forestry and cottage industry. The possession of small holdings will push up the social status of the landless, particularly scheduled castes and tribes, and enable them to have access to other means of production. Myrdal writes, "a high priority should be accorded to a progrmme to give a small plot of land and with it dignity and a fresh outlook on life, as well as a minor independent source of income—to members of the now landless underclass in the villages".[3] In fact, such a programme should be the basic foundation of the economic development of our country.

Land reform essentially refers to effective redistribution of land in favour of the weaker sections. In the absence of effective land reform, there is little basis for a hope that all the other institutional reforms will not primarily serve the interests of the affluent sections of the society. A large number of measures, designed to benefit the weaker sections, have in fact worked in the contrary directions. Examples of such measures are the credit cooperatives, community development and agricultural extension. These measures had been introduced for fostering greater equality in the rural sector. "But by the logic of the existing inegalitarian

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1, 2. Draft Five Year Plan (1978-83), p. 12.

3. "The Challenge of World Poverty", G. Myrdal, p. 121.

social, economic and political stratification in these countries, and not least in their villages, they have almost regularly had the opposite effect".[4] The more affluent sections have derived the lion's share of the advantages offered by the co-operative credit societies, and profit from the subsidies given for their development. As a consequence, inequalities have aggravated and not diminished. This is clear from the fact that the share of small farmers (with two hectares or less) was only 31 per cent of the advances made by the co-operatives and land development banks in 1975-76 in the entire country.[5] Institutional measures like the S.F.D.A. and M.F.A.L. cannot alter the existing inequality of ownership of land and hence the ineglitarian power structure. Therefore, these devices cannot strike at the root of the malady. Consequently, the establishment of these agencies only represents "an evasion of the equality issue". Redistribution of land and adoption of new technology :—

If adoption of improved technology by the small and marginal farmers is necessary for increased productivity in agriculture and removal of poverty of the weaker sections, the rapid spread of such technology in the agricultural sector is dependent on redistribution of land. The spread of new technology in the form of adoption of high-yielding varieties of cereals without redistribution of land has resulted in aggravation of inequalities in the rural sector. The intimate connection between the two is generally forgotten and emphasis is given on only technological advance. Whether the unequal ownership of land and the system of prevailing tenancy are obstacles to the spread of the new technology is rarely analysed and bothered about. What is of great importance to realise is that land reform is a precondition of the wide adoption of better methods and attainment of higher levels of productivity, as it would create a relationship between man and land that does not stifle his incentives to work and invest. Myrdal emphatically points out that "attempts to improve technology in agriculture and to raise yields will never have great results if that relationship between man and land is not established".[6]

[4] Ibid, p. 116.

[5] Draft Five Year Plan (1978-83), p. 13.

[6] "The Challange of World Poverty", G. Myrdal, p. 124.

Our declared policy

Our declared policy has long since been that the fruits of development are bound to be most unevenly distributed and the weaker sections would remian neglected, so long as the institutional structure of the society remains the same. In spite of our realisation of the correct path to be traversed, "there is lack of boldness and probably unwillingness to push through the desired programme in the teeth of opposition of the vested interests. In this connection the Draft Sixth Plan points out : "A more equitable distribution of land resources through programmes of land reforms has consistently been a major policy objective since independence. But the will to implement this policy has been sadly lacking all along. During this Plan period this basic policy will be implemented vigorously so that there is a meeting ground between policy and performance. Every attempt will be made to complete the process of land reforms".[7] This sounds like a determination and its translation into actuality is awaited.

Future Programme for making small farms viable

It has been decided that during the Sixth Plan period the task of redistributing the surplus lands would be completed. The village committees would be reorganised for this purpose with adequate representation, empowered to correct land records, identify true surpluses and draw up redistribution plans for each village. These redistribution plans should be implemented subject to one appeal to be decided upon by tribunals within a fixed short time period.

As has been pointed out, land redistribution is a measure not only to ensure social justice but also to increase employment and productivity. Such a step would increase the number of small farmers and the next problem that has to be simultaneously tackled is to make these farms viable. The experience of the Syndicate Bank in financing marginal farmers in Karnataka shows that the introduction of new technology in marginal and small farms is both feasible and viable ; but such a farmer is not able to sustain his household for a full year on farm income only.[8] He has to supplement this by income derived from other off-farm employment avenues. Such agrarian reform should be supplemented by a large number of other complementary institutional reforms including agricultural extension, provision of cheap credit, supply of fertilizers, seeds and other farm implements, improved market outlets and the like. Along with these measures, the income of the small farmers from crop production has to be supplemented by income from animal husbandary, fishery, forestry and cottage industry activities. This would necessitate a co-ordinated development of agriculture and household industries supported by rural electrification.

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[7] Draft Five Year Plan (1978-83), p. 131.

[8] "The Economic Times", Jan. 4, 1978.

The strategy of development outlined above appears to be the only way to ensure larger employment opportunities and utilisation of the greatly underutilised labour force in our country. The industrialisation drive in the past has failed to create employment. The theory of disguised unemployment containing a saving-potential for capital formation presupposes the possibility of the removal of a large part of the agricultural labour force to be engaged in other occupations. But the fact is that "even a much more rapid industrialisation than is actually achieved, or planned without being achieved, cannot be expected to raise the demand for labour very much".[9]

The other important consideration is that the surest way of getting large amounts of fresh employment at a lesser cost is to increase the spread of irrigation rapidly. Data collected from all over the country show that, on an average, irrigation increases employment in agriculture by 40 mandays per hectare. Punjab Agricultural University studies have shown that it takes roughly 360 mandays of labour to create minor irrigation facilities for one hectare of land. On the assumption that a 120 mandays more of work is required per person to remove underemployment in the agricultural sector in Orissa and the wages of rural manual workers per day is Rs. 6, it would follow that full employment via irrigation for an agricultural worker requires an investment of Rs. 6,500 only, whereas in industry the current estimate is around Rs. 2,00,000. Therefore, the Sixth Plan is right in pointing out that the solution to the problem of underemployment is not creation of so many million specific jobs in five or ten years, but the task is to create

9. "The Challenge of World Poverty", G. Myrdal, p. 104.

through development of additional employment opportunities to match with the location, skills and idle time of the unemployed.[10]

Conclusion

Thus the problem of the marginal and small farmers is not a mere increase of productivity but it amounts to creation of new conditions of work. This is the essence of the problem of distributive justice in the rural sector in India, in general and Orissa, in particular. It is not a question of pushing through technological advances in this neglected section but a gigantic task of opening out opportunities of a better life through new and attractive conditions of work for the teeming millions. It is ultimately a question of changing the institutional framework of a traditional society so as to make it more favourable for a significant increase in the levels of production. The whole purpose of agrarian reform is to establish a socio-economic structure in which the benefits of increased investment in economic activities flow smoothly into areas or the pockets of those who need them most. Success in the venture would remove the main cause behind agricultural stagnation and hence the low rate of economic growth in our country. W. A. Lewis points out that agricultural stagnation "keeps down the living standards of the great majority of the people, and in restricting their purchasing power, restricts also the scope for industrialisation". It is clear from this that the problem of distributive justice in the rural sector is also vitally inter-linked with the industrialisation of the country also. But the reverse order of economic development that we have followed so far has been the source of all economic troubles confronted by us today. The sequence of development "according to the natural course of things", as laid down by Adam Smith, "is first, agriculture, then manufactures, and finally commerce". [1] Our tragedies are bound to get worse if we persist in violating this natural course of development.

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10. Draft Five Year Plan (1978-83), p. 3.
11. "Economic Development", G. M. Meier and R. E. Baldwin, p. 26.

The Oil Money Boom and International Labour Migration

Francis Cherunilam*

Important economic activities are generally characterised by what are known as spill-over and multiplier effects Ups and downs in the economic activities of one sector can spread its impact to other sectors. These spread effects obviously depend on the nature of magnitude of the activities, the linkages between the different sectors and the sensitivity. In the 1970s, perhaps the most important development that has seriously affected the international economic and political scene is the oil price hike. The oil money boom, brought into being by the quadrupling of oil prices in 1973, has made its impact felt, apart from the balance of payment problems, on the advanced economies by its spending spree and investment activities and on the less developed economies by pulling large amounts of human resources from them to meet the demands of the large scale investment activities facilitated by the torrent of oil revenue.

The revenue the oil exporting countries amass from the sale of oil is dizzy high. A barrel of oil which was produced at a cost of less than Rs. 2.50 was sold by Saudi Arabia for more than Rs. 100. No wonder, the oil revenue of Saudi Arabia approached Rs 320,000 million in 1977. There has been a tremendous increase in the export earnings of the oil rich countries. For instance, between 1972 and 1974, the oil export earnings of Saudi Arabia increased more than seven and half times—from SDRs 3972 million to SDRs 35,666 million—and of Iran more than six times. The oil revenue of the OPEC increased from $ 23,000 million in 1973 to $ 91,000 million in 1974 and to further $ 129,000 million in 1977. In 1978 it declined to $ 119,000 million. However, 1979 will witness a remarkable increase.

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* Department of Post-Graduate Studies and Research in Economics, University of Mysore, Mysore.

Table I

OPEC OIL REVENUES 1973—1978

Year	Volume (million b/d)	Revenue ($'000 million)	Average price ($ a barrel)
1973	29.5	23.1	2.15
1974	29.1	91.1	8.58
1975	25.6	94.7	10.14
1976	29.3	109.3	10.19
1977	29.6	128.9	11.93
1978	27.7	119.2	11.79

Source : MEED, June 22, 1979, p. 11.

Part of this torrent of cash has been spent on consumption and investment abroad. Saudi Arabia's gold, foreign currency holdings and investments abroad have been estimated at well over Rs. 440,000 million. The net foreign assets of Qatar increased from QR 744 million in 1974 to QR 2199 million in 1978. However, one of the most conspicuous impacts of the tidal wave of oil money has been the enormous investment in a variety of projects to mould these backward countries into modern welfare states. The oil rich economies have embarked upon ambitious development plans designed to transform these desert economies into flourishing economies and modern superpowers within a generation. The amount of money they pump in under these development schemes is quite fabulous. The current five year (1975-80) development plan of Saudi Arabia (which has a population of only 7.6 million), for instance, has been estimated to cost US $ 200,000 million (over Rs. 163,000 crores) as against India's current five year (1978-83) plan outlay of over Rs. 116,000 crores. "Whole new cities are being created, air ports built and highways constructed. Schools, clinics, factories, office buildings, mosques and markets go up at such a rate that it seems the wrecker's ball ought to be Saudi Arabia's national symbol, and construction crane the state bird".[1] In short, as the 'Gulf Air' advertisement says, within a decade, the states fringing the eastern cost of the Arabian Peninsula have become a new world, rich in themselves, fast developing into international trade and financial centres, breeding new industries.

Since 1974, the Middle East countries have been making rapid strides. Large chunk of money has been spent on construction activities. Three factors have been mainly responsible for the construction sector absorbing large investments. First, the demand for social services infrastructure was considerable, as many states began ambitious development plans from a very limited capital stock. Secondly, planners have begun to anticipate yet more growth of a similar nature to that experienced from 1974 to 1977. Thus port and hotel capacity now far exceeds present demand. Thirdly, just as the market was poised to decline, a new development objective was adopted : industrialisation. The construction activity related to the development of industrial sites such as those of Yenbo, Jubail, Ruwais, Jebel Ali, Umm Said and Shuaiba is considerable, especially as an ancillary demand for yet more housing and social services infrastructure has to be provided for.

Though construction activities in the Middle East are not likely to continue unabated at the current pace for a long time, it is still expanding at least in the main areas of Saudi Arabia, Iraq and Kuwait.[2] In 1978, the construction expenditure of Saudi Arabia increased by 14 per cent and reached $ 11,850 million. The construction expenditure of Kuwait in 1978 was $ 1,071 million against $ 1,020 million in 1977. In case of Iraq, the total construction expenditure of $ 3355 million in 1978 represented a 22 per cent increase over 1977. As far as most of the other countries of the region are concerned, 1978 suffered a set back in the construction expenditures. The total construction expenditure of Libya for 1978 was estimated at $ 1247 million and this represented a reduction of 13 per cent over 1977, or an estimated 30 per cent when taking inflation into account. In the case of Qatar the decline was of the order of 33 per cent and for Oman it was 21 per cent Abu Dhabi and Dhabai in the UAE suffered a reduction in their construction expenditure of 37 per cent over 1977. Their construction sector absorbed in 1978 $ 1,235 million. In spite of these reductions, the construction activities in the Middle East are still brisk, 1978 produced a total construction value in the 12 countries—Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Libya, Oman, Qatar, Saudi Arabia Syria and UAE—of $ 25,703 million. This only marks a relatively small reduction over 1977 of 4 per cent, without accounting for inflation.

True, the rapidly expanding oil economies have had a surfeit of "working capital"; but they seriously lacked "working men" or "human capital". The inability of the domestic labour supply to cope with the growing demands of the large scale investments demanded that manpower of varying skills be drawn from other countries. The large stock of unemployed and underemployed human resources in other countries have readily responded to this demand and there has been an influx of migrants to these expanding oil economies. While most of the professional and technical cadre has been provided by the USA and Europe, the unskilled labour flocks from the third world. A good deal of the construction activities in the Middle East are executed with the foreign labour force. In 1975, at the comencement of the second development plan, there were estimated to be 314,000 foreigners employed in Saudi Arabia compared with 1.28 million Saudis in employment—a ratio of 1:4. Over the period of the five year plan it was estimated that additional manpower of 730,000 would be required to fulfil the targets. The Saudi contribution was estimated at 232,000 (based on an annual increase of 3.1 per cent in the number of nationals entering the employment market) and 498,000 from overseas. By 1980 the expatriate population would account for more than 30 per cent of the total work force—a ratio of 1:2 approximately. Though officially unquantified, the magnitude of the influx of foreign labour into Saudi Arabia since 1975 has been estimated to be at the rate of 60,000 to 100,000 a year. It has been estimated that foreigners constitute about one-third of the work force in Libya. Libya's dependency on foreign companies and workers has gone up in the last 3 years with the start of the 1976-80 development plan which envisages $ 31,250 million worth infrastructure projects.

The existence of vast unemployment, very low levels of wages and abject poverty in the Third World countries has in fact resulted in an exodus of job hunters to these oil rich economies. Tables II and III clearly show that it is from the countries with very low per capita income that large scale labour migration takes place and that the per capita income of the countries to which immigration takes place is quite high. In fact, the oil exporting countries are among the countries having the highest per capita income in the world. In different countries, workers of different foreign nationalities are preferred in varying degrees. However the presence of more than 30 nationalities working on construction projects in the Middle East would indicate that there is no consensus of opinion as to who is preferred most. It is but only natural that the percentage of migrants from the Muslim countries to these Arab countries is very high.

Arab Republic of Yemen, Pakistan, Egypt, People's Democratic Republic of Yemen, India, Afganistan etc., have been the major labour exporting Third World countries. The migrants from people's Democratic Republic of Yemen to the Gulf states are equivalent to as high as 17 per cent of the total population of the emigrant country. In the case of Arab Republic of Yemen it is little less than 9 per cent. Even these figures could be gross under estimates. According to the IMF Survey, migrants from India are only 214,000. However, according to Sunny Kulathakal, who has recently travelled

Table II

Estimated Immigrant Workers in the Middle East in 1977

Country (1)	Per capita income U. S. $ (2)	Total population (lakhs) (3)	Immigrant workers (lakhs) (4)
Iran	1440	348	11.00
Libya	5080	27	3.50
Kuwait	11510	11	4.00
Bahrain	2440	3	0.35
Qatar	8320	1	0.70
Oman	2070	8	0.74
U.A.E.	10480	2	0.40
Saudi Arabia	3010	76	10.00

Source : Columns (2) and (3) UN World Population Data Sheet 1977 ; Column (4) IMF Survey Sept. 4, 1978.

Table III

Emigrant in the Middle East—1977

Emigrating from	Per capita income (US $)	Total Population (Lakhs)	Emigrant to the Middle East (Lakhs)
Afganistan	130	200	2.00
Bangaladesh	110	833	0.50
Egypt	310	389	3.50
India	150	6227	2 14
Jordan	460	29	1.50
Korea	550	359	0.60
Pakistan	140	745	5.00
Srilanka	150	141	0.20
Sudan	290	163	0.50
Yemen, Arab Rep.	210	56	5.00
Yemen, People's Demo. Rep.	240	18	3.00

Source: Same as for Table II.

through the different Gulf States and "tapped almost all the sources such as the Indian Embassies, consulates, Immigration and Labour Departments and hundreds of companies and business organisations in the Gulf countries",[3] the total number of Indians in these countries is 490,000. The two Kerala ministers who had been to the Gulf countries recently have estimated that the number of Keralities in these countries would be around 3.5 lakhs. In fact, nobody is in a position to give a precise account, as many have landed in these countries without the knowledge of any of the governments. However, the fact remains that the oil rich countries have large migrant labour force. According to the IMF Survey Iran alone has had an immigrant labour force of 1.1 million in 1977. The one million immigrant labour of Saudi Arabia is equivalent to more than 14 per cent of the total population of the country. In the case of Kuwait, the immigrant population, 4 lakhs, is equivalent to about one-third of the total population.

A large number of the migrant workers are employed in the construction sector. In 1975, migrant workers in the construction sector accounted overall for 28 per cent of all migrant workers in the six main capital rich states—Saudi Arabia, Libya UAE, Kuwait, Qatar and Bahrain. Arabs accounted for 72 per cent of all migrants working in the construction industry. In Saudi Arabia and Libya their share was more than 90 per cent. However, the Arab contribution to labour in the construction industry is due to decline sharply. The success of the Far Eastern Companies, especially, the Korean and Taiwan, in getting the contracts affects the prospects of the Arabs in getting work. It is said that in future a growing proportion of a declining construction sector will be the preserve of Oriental companies ; non-Asian contractors will find it increasingly difficult to find work.

The influx of migrants has, among other things, significant economic impacts on both the emigrant and immigrant countries. While the oil exporting countries have benefited by gaining the much needed human capital to carry out the various schemes, it has helped the labour exporting economies increase the marginal productivity of labour. However, a most important economic impact has been the fabulous emigrant remittances received by these poor economies. Table IV provides an estimate of the emigrant remittances of different countries.

Table IV

Emigrant Remittances of Selected Countries

(millions US dollars)

Country	1973	1977
Afganistan	....	200
Bangaladesh	....	75
Egypt	87	1025
India	235	1000
Jordan	45	425
Korea	154	172
Pakistan	151	1110
Philippines	....	130
Sri Lanka	....	12
Sudan	....	40
Yemen, Arab Republic	129	1000
Yeman, People's Dem. Rep.	33	179

Source : IMF Survey, Sept. 4, 1978.

Between 1973 and 1977 the emigrant remittances of Egypt increased by more than 1000 per cent, of Pakistan about 573 per cent, of Arab Republic of Yemen nearly 670 per cent, of People's Democratic Republic of Yemen about 442 per cent and of India about 325 per cent. In 1977, Arab Republic of Yemen with a population of 5.6 million and a per capita income of $ 210 received $ 1000 million by way of remittances. In other words the per capita emigrant receipts of the people of the country as a whole has been more than $ 178 against their income per capita of $ 210. In the case of Jordan this per capita receipt has been more than $ 146 as against the per capita income of $ 460. In 1977, Egypt with a population of about 39 million received by way of emigrant remittances $ 1025 million and Pakistan with a total population of 75 million received $ 1100 million. Thus the expatriates pump large amounts of money into the monetary streams of the labour exporting economies and it is quite evident that the oil money boom has serious economic implications for these countries.

The problem is further complicated by the highly uneven spatial distribution within the countries of emigrants and emigrant remittances. For instance the small South Indian State Kerala with a population of about 25 million accounts for a large share of the Indian emigrants. About 3.5 lakh Keralists are reported to be working in the Gulf countries The estimates of inflow of emigrant money to the State vary from Rs. 4000 million to Rs. 10,000 million. Even if we take a very low estimate of Rs. 5000 million, it implies a per capita receipt of about Rs. 200 against the income per capita in the State of about Rs. 900.

The influx of large emigrant remittances to the labour sending economies are causing a number of serious problems in these countries.* The "oil money" has unleased inflationary pressures in these countries. The money sent home by the migrants are often used to buy land and to-build. Speculative investment in real estate forces prices up rapidly causing a construction boom in the capital-poor countries just when large segments of their work force had departed to work in oil exporting countries. Especially in the capital-poor Arab countries, the enormous development aid given by the capital-rich Arab countries and the expatriate remittances have brought in a real building boom and the departure of a significant proportion of the more skilled construction workers of these poor Arab States has caused rapid wages inflation in urban centres such as Cario Ammen, Damasus, Sanna and Khartoum.

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* For a detailed account of the impact of the emigrant remittances on the local economy, see C. A. Francis and C. K. Renukarya "Impact of foreign Money on Kerala Economy: Need for a Policy" *Southern Economist,* 15 12 1978.

The Arabian lure has resulted in serious brain drain from countries like India. Kerala has already started feeling the pinch of it. It is reported that some departments in the medical colleges of Kerala have been either closed down or on the verge of closure as the Professors etc. have drained away to the Gulf. Now the State Government is reported to be thinking of imposing some restrictions on the emigration of experienced doctors, nurses etc.

However, this migration of labour is not likely to continue for a long time. The IMF Survey states that "This migration appears to be a temporary phenomenon. When the petroleum boom subsides, the oil exporting countries will no longer need the population they have added".[4] Their net intake of labour is already tapering off since they are slowing down development in an attempt to control inflation. It has been reported that Saudi Arabia's third five year plan period (1980-85) "may see a curbing of projects particularly in areas where no return on expenditure can be expected—hospitals, ambitious university campuses, city improvements and possibly one or two prestige projects... ...."[5]

Even in the current labour market of the Middle East there are present certain disquieting factors as far as the labour from the poor countries is concerned. There is deplorable under-employment of the human capital of the Third World countries in these rich oil economies. The Middle East is no longer a 'promised land' as it was in the recent past. "It is reliably learnt that there are thousands of Indians in the UAE without proper jobs, visas and living conditions. There are several unemployed doctors and engineers in the UAE and there are cases where doctors work as male nurses and taxi drivers. Several post-graduates are working as coolies and labourers in various parts of the Gulf countries".[6]

Recent newspaper reports indicate that more and more Indians and other nationals are thrown out of employment in the Middle

East. It appears that return of the emigrants may start in the near future. The flow of emigrant remittances will become thinner and thinner. And the bubles of economic prosperity created by the oil money will also disappear. This may not happen all on a sudden but gradually. The "scale of investment in construction can hardly be expected to remain at present levels for long. Indeed, the very nature of the construction industry suggests that decline is inevitable and will affect the hole of the peninsula sooner or later". And "The return home of the migrants in the construction industry will compound difficulties from which labour sending countries have already suffered. Shortage of foreign exchange will become acute, constrain investment, and reduce construction opportunities. Unemployment will soar".[8]

References

1. Hempstone, Smith, "Saudi Arabia : The Over Night Super Power", *Reader's Digest*, November, 1978.
2. *Meed Special Report on Construction*, April, 1979.
3. Sunny, Kulathakal, "Indian's in the Gulf-2" *The Illustrated Weekly of India*, Dec. 10, 1978, p. 28.
4. *IMF Survey*, Sept. 4, 1978.
5. *Meed Special Report on Saudi Arabia*, June, 1979, p. 12.
6. Sunny, Kulathakal ; "Indians in the Gulf" *Illustrated Weekly of India*, Dec. 3, p. 20.
7. Birks, Stace and Sinclair Clive ; "Current Trends Offer Little to Arab Contractors", *Meed Special Report on Construction*, April, 1979,, p. 21.
8. Ibid, p 22.

Banks After Nationalization

A Review of Priority Sector Advance in West Bengal

Binay Krishna Pal*

The purpose of this article is to critically evaluate the performance of the commercial banks in financing priority sectors in the light of viability of the banking structure. We shall confine our attention to performance of commercial banks in West Bengal.

The main features of banking policy after nationalization have been (i) to open branches in hitherto uncovered rural and semi-urban areas, (ii) to progressively plough back increasing proportion of deposits to priority sector finance so as to reach the optimum level of 26% of total bank deposits and (iii) to cater to the needs of the weaker sections of the rural population like marginal farmers, landless labourers, scheduled tribe etc by adoption of a differential rate of interest.

.Let us evaluate the performance of the commercial banks in West Bengal under each of the above heads.

The coverage of the rural areas of West Bengal by branches of public sector and other non-nationalized commercial banks like the United Industrial Bank Ltd., has vastly improved since nationalization in 1969. Out of 335 blocks in the state only 17 do not have any bank branch to-day. Out of the total number of 1741 bank offices of public sector and other banks at the end of December, 1977, 928 are located in rural and semi-urban areas. The proportion of rural branches to the total branches at 29.7% is, however, still less than all-India average of 41.7%.

Even though the number of bank branches has increased substantially, most of the branches excepting possibly those of lead bank in the district do not have any field officer. Thus the branches

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* Women's College, Calcutta.

function more as pay offices for receiving deposits and encashing cheques rather than development agency for making investment in rural areas. The main bottleneck for manning the branches has been reluctance of highly paid bank personnel to move out into the interior areas of the country. The high cost of recruitment, training and placement of a large number of employees in the rural areas present a formidable problem which cannot be easily overcome. This raises the fundamental policy issue whether given the existing socio-economic environment of our countryside it is desirable to go for any further branch expansion of nationalized commercial banks in rural areas or they should develop a chain of subsidiary banks like the regional rural banks who would be able to open new branches and recruit manpowers at far less cost by equating their pay with district co-operative banks. We have in West Bengal only three regional rural banks today—Gour Gramin Bank covering Malda and West Dinajpur districts, Mallabhum Gramin Bank covering Birbhum and Murshidabad districts and Uttarkhand Gramin Bank covering Coochbehar and Jalpaiguri districts. Only by strengthening the regional rural banking system a cadre of experts in the field of agriculture, animal husbandry, handloom and cottage industries can be built up to give a forward thrust to investment in rural economy.

In the absence of a suitable organizational base at the rural level, priority sector advance in West Bengal by the commercial banks has been lagging behind.

The quantum of deposits, advances and investment in the State at the end of June for two years 1976 and 1977 is as below :

		As on the last Friday of	
		June 1976	June 1977
1.	Deposits	1950.63	2303.38
2.	Advances	1285.24	1580.86
3.	Investment	186.67	205.02
4.	Credit : Deposit Ratio	65.9	68.6
5.	Credit + Investment : Deposit Ratio	75.5	77.5

Out of total advances, public sector banks advance to priority sectors in the state rose from Rs. 169.80 crores in June, 1976 to

Rs. 213.78 crores in June, 1977. As a proportion of total advance priority sector advance constituted 16.1% in June, 1976 and rose marginally to 16.3% in June, 1977 as against the target of 36 per cent laid down by the Govt.

State Govt. in West Bengal entrusted to commercial banks the task of implementation of many important policy measures like financing of about 1200 co-operative societies ceded to commercial banks, financing of bargadars who will be identified during the current 'operation barga' drive, financing of integrated rural development projects to be executed in selected blocks by panchayet samities. If commercial banks can go fully ahead with the implementation of the above policy measures level of priority sector advance would no doubt increase. But apart from the organizational bottlenecks pointed out earlier, there is another serious bottleneck developing—that of increasing level of over dues which is threatening to erode the financial viability of the entire priority sector advance.

The level of overdues of commercial banks in the field of agricultural and other priority sectors advance for the last three years is indicated below.

State	All Indian Scheduled Commercial Banks' Percentage of Overdues to Demand		
	June 1975	June 1976	June 1977
West Bengal	68.4	66.3	59.8

Directing a greater flow of bank finance to those strata of population whose consumption needs are not adequately met at present by their current level of income no doubt presents a risk of misutilisation of production credit. This is a challenge which a banker has to face by adopting a realistic policy of advance which takes into account in the initial period the consumption as also production credit requirement of the loanee and to draw up a concrete production plan which over a period of years will generate sufficient incremental income to pay back the loan. More difficult, however, is to tackle the problem of wilful defaulter who often is a well-to-do person and whose default constitutes the hard core of overdue. Shielded by political influence and taking advantage of the general apathy of the commercial banks to initiate a process of speedy recovery of loans, it is the farmers well above the poverty line who are jeopardizing the future expansion of bank credit.

Talwar Committee had laid down the legal framework on the basis of which different State Governments including West Bengal have passed necessary legislation to confer legal rights on commercial banks to recover their dues in priority sector advance by taking recourse to Public Demand Recovery Act like realization of Govt. dues. Here, however, the commercial banks are entirely at the mercy of State Govt. as the execution of certificate cases to be filed by commercial banks against defaulters depends upon the earnestness with which the certificate officers deal with the cases. Complaint is often heard that disposal of certificate cases filed by banks is slow and time-consuming. The other alternative before commercial banks is to engage a huge collection machinery of its own like co-operative banks which is an impossibility given the high pay scale of commercial banks employees. This is one more reason to strength the net-work of regional rural banks and stop further expansion of commercial banks in interior rural areas. Otherwise, growing overdues with progressive immobilisation of a large part of bank deposits will frustrate the very aim of bank nationalization.

In the context of the above level of overdues in priority sector finance, recent Govt. derective for extension of bank finance under D.I.R. (Differential Interest Rate) from the level of 0.5% of total bank advance to 1% at present requires close scruitiny. In the opinion of the professional bankers further extension of coverage of D. I. R. without Govt. subsidy would jeoparadise the financial viability of the banks which are already reeling under sticky advance to closed and sick industrial units in the State.

In order to judge the question of financial viability of banks and grant of subsidy, we cannot consider the commercial banking system as a whole. We have to analyse the deposit structures, portfolio of investment and interlinked profitability for each separate bank. Giants among the nationalized banks whose portfolio investment is mainly in the field of high profit areas like trade, export and import finance can easily absorb the likely increase in the cost of operation in financing under D. I. R. For non-nationalized medium-sized commercial banks like United Industrial Bank Ltd. in West Bengal which are fast venturing in the field of rural finance on a large scale, sufficient cushion for absorption of overdues will have to be created by grant of suitable subsidy by Govt. for financing weaker section under D. I. R. When over a period of years Govt. have developed so many schemes of providing subsidy to small and marginal farmers and of providing risk-cover to co-operative banks for financing small and marginal farmers, extension of such scheme to commercial banks is necessary to make the next decade after nationalization a truly eventful one.

Annexure

Advances to primary sectors by public sector banks

(Rupees in crores)

	June, 1976		June, 1977		Sept, 1977	
Sector	No. of A/cs./ Units	Amount out-standing	No. of A/cs./ Units	Amount out-standing	No. of A/cs./ Units	Amount out-standing
Agriculture Direct Finance	178455	28.27 (16.6)	259871	38.86 (18.2)	269870	38.42 (16.8)
Indirect finance	18382	(10.17) (6.0)	55261	10.76 (5.0)	78476	11.90 (5.2)
TOTAL :	196837	38.44 (22.6)	315132	49.62 (23.2)	348346	50.32 (22.0)
Small Scale Industries	25561	89.97 (53.0)	33609	108.56 (50.8)	35112	114.93 (50.3)
Road and Water Transport operators	13444	27.22	17213	37.30	17293	39.37
Retail Trade & Small Business	27791	11.54	38922	15.02	41109	20.31
Professional & self-employed persons	11419	2.47	15839	3.07	17286	3.31
Education	204	0.16	434	10.21	449	0.25
	275256	169.80 (100.0)	421149	213.78 (100.0)	459595	228.44 (100.0)

Note : Figures in brackets indicate percentage to totals.

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- * Comparison of the Existence of Real Balance Effect in Six Countries.
- * Public Expenditure in West Bengal, 1951-52 to 1973-74
- * A Note on Working of the State Trading Corporation

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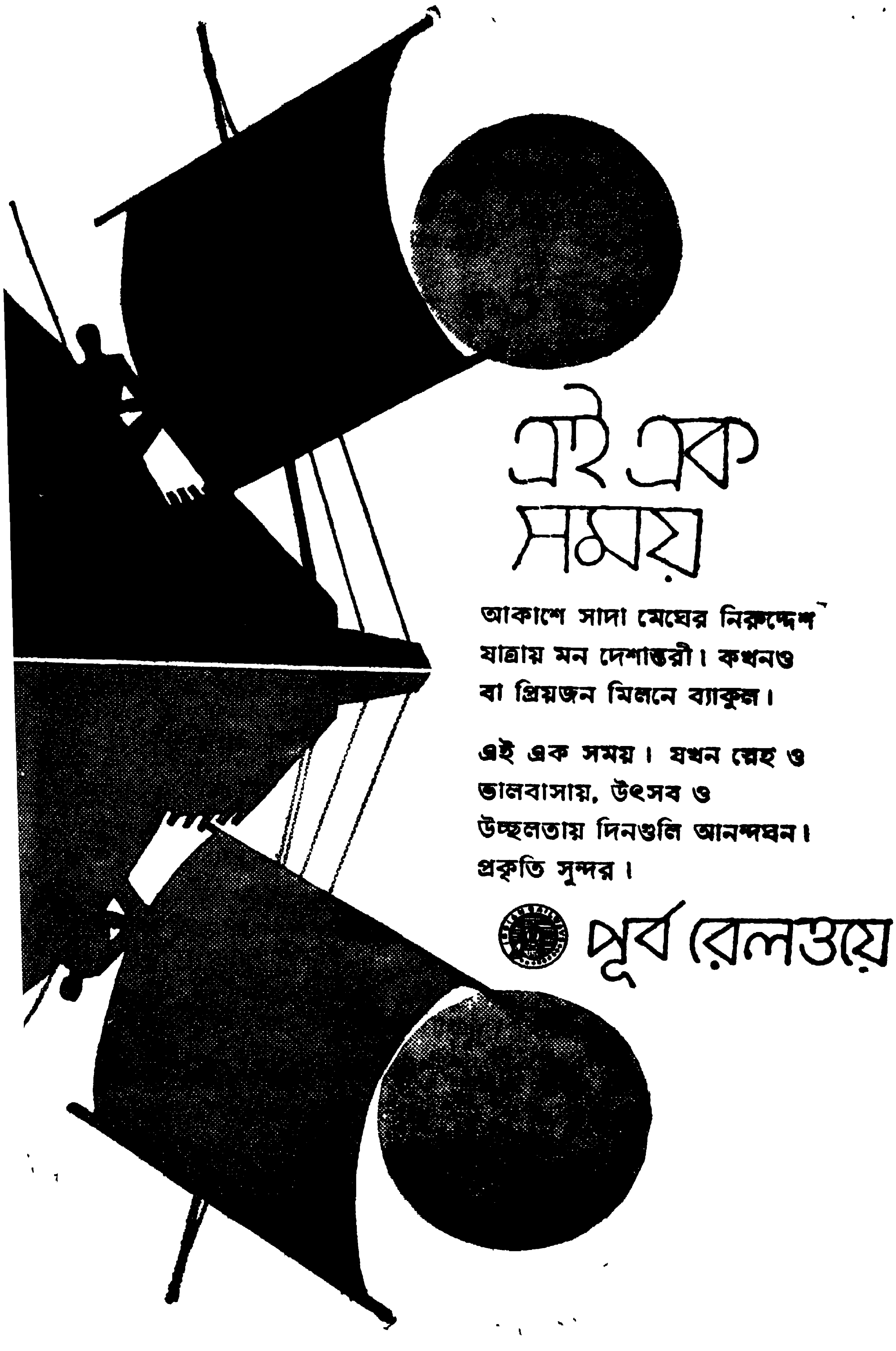

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কর্পোরেশন
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কলিকাতা ৬৯

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সমবায় সমিতি লিঃ
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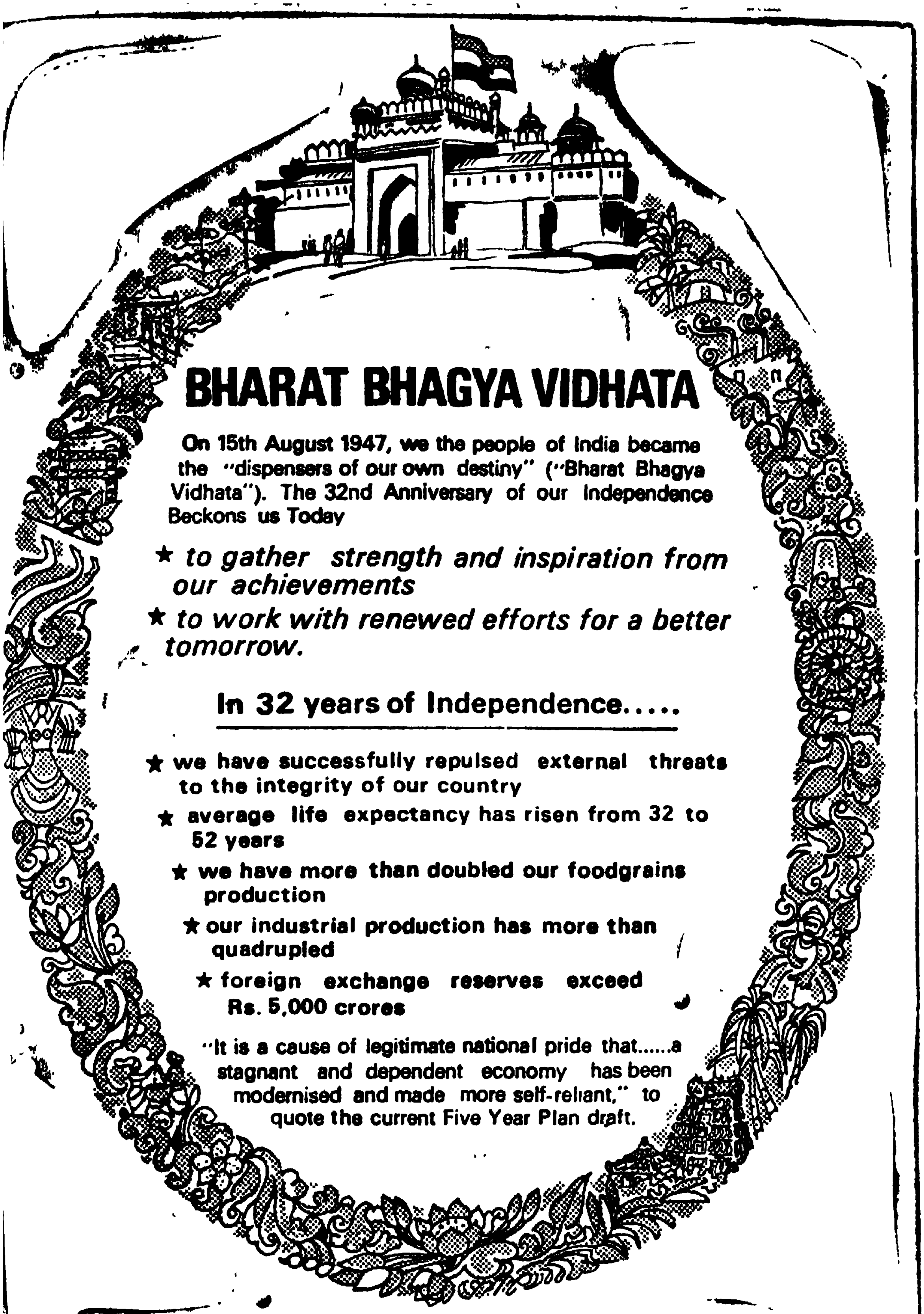

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Price, Credit and Concentration

Under the twentyeight months Janata rule the price rise is phenomenal, a rise of 15 per cent in this year alone. This is due mainly to the huge deficit budget, about Rs. 2300 crores at Union level, and consequently to the huge expansion of bank credit. In just one year money supply has expanded by as much as 21 per cent and bank credit by 25 per cent, faster than the rate of growth in deposits. The bank credit mostly goes to finance the inflationary rise in prices below which work the cost push, excess capacity, hoards, wrong projects, waste in administration in feeding the people's representatives, political posts and nation-wide commissions and committees.

The Janata(S) coalition has fallen back upon the traditional measure of credit curb to arrest the price line urging the enterprises to draw upon their own resources. The coalition's Prime, Mr. Charan Singh, reportedly differs with the communists in that they work for concentration of industries in the hands of the State while he wants to ensure industry in every village in the pattern possibly of Gandhian economics. One thing might have slipped him off that capitalists also work for concentration, of course, in the hands of a private few. That is, while the communists stand and strive for Army-backed State concentration of economic power, the capitalists for State-backed "free" concentration of economic power. In between the two there is no room for any third possibility in either of the social structure.

In West modelled democracy backed by Russian modelled economy the price rise is always hailed by all sizes and shades of Indian businesses. For cost follows price and profit smiles in between the time lag. But credit squeeze hurts only the smallers and dreadfully the smallests. It touches the bigs a little but serves much more as a booster. For they have enough resources of their own and political pulls inward and outward to pool finance. Importantly, the curbs go to liquidate the smalls or live them on the verge of survival, which means natural concentration and normal death or near-death of the "dark economy" in modern era of growth.

A rewarding example is provided by the printing industry of West Bengal. The number of small printers runs to about 90 per cent of the total. The authority-inspired labour strike after a standstill for a month has led to a sudden rise in wage rates. Imposed on it are the power shortage and rise in paper prices which have landed the small printers to unprecedented crisis of survival. The new entry of small printers is not only thus restricted but also restricted by rules to save those who are already in the field. That is to deepen the foundation and strengthen the area of concentration.

In our "socialist economy" public sector has been assigned the area in which the private sector is not interested for low profitability, or non-quick returns or strategic reasons. Similar is the position of small industries. They are to act as ancillaries and give way to the bigs whenever their economies of scale allow them to go without their services or in the field which is crowded with poor buyers for poor quality of goods. The small and village industries have not given their respectful and rightful place in the economy on their own absolute merit. Their assignment is only a necessary evil.

Socialist economy based on Gandhian thoughts can truly avail of the service of small and village industries as the necessary social way of life and living only if the greed for possession can be avoided. In that set-up, state has a different role, democracy has a different meaning, and the minds of enterprisers have a different making. Without these any imagination or attempt of revivalism at higher level will mean the strengthening of concentration which is the product of growth oriented modern capitalist/socialist economy.

Review

Role of Industrial Estates in a Developing Economy, R. L. Sanghvi, Multi-Tech Publishing Co. Bombay-77, 1979, Price Rs. 75.00.

The present work is the abridged rendering of the author's doctoral thesis submitted to the Gujarat University in 1976. Dr. Sanghvi endeavoured to find out the answers of six very rich questions relating to industrial estates namely, optimum size, effect on small industries, contribution to balanced regional development, comparative efficiency of industrial enterprises in urban industrial estates and the semi-urban and rural ones, operational problems of small enterprises housed in industrial estates, and social gain out of industrial estates.

Dr. Sanghvi had done a lot of field survey in industrial estates in South Gujarat region. This has enriched his findings that industrial dispersion is possible only through "clustered industrialization", industrial enterprises housed in industrial estates are more efficient and viable than those which are located outside the estates, urban industrial estates are more successful than the rural ones, economic benefits from industrial estates do not accrue to the region where these estates are located and pre-investment techno-economic surveys should be undertaken and reports prepared before starting industrial estates.

Although Dr. Sanghvi's research is confined to industrial estates of a certain region of the country yet its findings are of general applicability, so also his suggestions. His work deserves deep and wide attention of both the Government and the researchers in the working of industrial estates in our country.

Towards a Industrial Policy 2000 A. D., P. D. Malgavkar and V. A. Pai Panandikar, Centre for Policy Research, New Delhi 57, Price Rs. 25.00, $ 5.00.

In this monograph the authors work out the industrial policy for the next century meeting the socio-economic objectives, namely the minimum needs of masses, the strategic requirements of the nation, the export objectives and development of Research and Development base. In formulating the policy considerable study has been made in population, food, labour, resources, energy, consumption pattern, growth rate, employment, industry and the industrial policy, all in world plane. Then in India's context the authors record, "One crucial conclusion of the study is that nearly 150 million new jobs have to be created during the next twentyfive years. This means that on an average 6 million new jobs will have to be created every year, until the end of the century. Even if we assume a low investment level of Rs. 15,000 per capita for this purpose, it means that nearly Rs, 9,000 crore investment per annum will be needed over the next twentyfive years—a task of some gigantic proportions."

It seems then the authors do understand the real value of their work besides the utopian character of such work in a fast changing world, in particular. Still such work has some theoretical and perspective value that deserves follow up.

A Tract on Money, Rabindranath Mitra and Himansu Roy, World Press Private Ltd.. Calcutta-73, 1978, Price Rs. 25 00, $ 5 00, £ 2.00.

The book under review is the fourth revised edition. Most of the eighteen chapters have been thoroughly revised and upgraded to suit advanced students in monetary economics of Honours and M. A. standard. Pass course students will also be highly benefited by the work. The chapters include saving and investment, consumption function, multiplier and acceleration principles, monetary theory of investment, Harrod-Domar growth models, exchange control, theory of inflation, international monetary co-operation and business cycle. It also includes in appendix the theory of growth.

Collected Essays on Economic Problems of India, Edited by Himansu Roy, The World Press Private Ltd., Calcutta-73, 1978, Price Rs. 20.00 $ 4.00, £ 2.00.

The Essays are a collection of 16 select articles covering almost all the important topical aspects of Indian economics published in the Economic Affairs during 1970-1975. The essays include critique of development planning in India, public services and poverty, commonsense of anti-inflationary price policy in Indian plans, prices in India, excess capacity in Indian industry, the public sector and economic development in India, multinational corporations, India's green revolution, taxation of agriculture in India, and self-determination or self-reliance for West Bengal. The book will be of great value for general readers, researchers, and students preparing for competitive examinations.

Comparison of the Existence of the Real Balance Effect in Six Countries

Kishore G. Kulkarni[*]

Introduction

The emergence of the permanent income theory, the life cycle hypothesis and related theories have radically changed the theory of the consumption function in the mid 1950s. Since then there has grown up a substantial body of literature testing and evaluating these theories. The Neo-classical tradition which was started by Prof. A. C. Pigou and continued by Prof. Don Patinkin has added a new variable (viz. real balances) to the consumption function. There has been a number of studies to check the influence of the real balances on the level of consumption. The basic problem which arises in such an estimation is that of the definition of the real balances. A. J. Brown (1964) has tried to explain the role of the real balances in the post war period in various western countries. The same type of study has been done by Morris Cohen (1954) who concludes that at least in the year 1947-51 real balances had no significant effect on the consumption. Needless to add, there are several other studies which could prove the exact contrary to Cohen's results. H. F. Lydall (1958), M. Bronfenbrenner and T. Mayer (1960) and A. H. Meltzer (1963) have used demand for money functions to show that liquid assets (or wealth) are one of the important variables in explaining the demand for money. But checking the existence of the real balances in demand for money function is just one way of checking the real balance effect. A direct method will be to examine the same existence via consumption function.

An excellent evaluation of empirical testings of the consumption function is available in T. Mayer's, "Permanent Income, Wealth and Consumption" (1972). He has not only surveyed a great amount of literature on the subject but also has given a number of tests to examine the fruitfulness of a particular empirical finding. From the studies of the time series consumption function stressing wealth, notable are the ones done by Spiro (1962) and Evans (1967). Spiro's consumption function which involves regressing consumption on the current and the past income, employs the 'use' definition of the consumption and includes undistributed corporate earning in income. The 'use' definition of consumption is the one which, 'counts as consumption not the purchase of consumers' goods but only their actual destruction by use'[1]. Using this definition and the function which were fitted for the period 1905-49 to predict for the years 1950-56 shows an average difference between actual and predicted consumption of slightly less than three percent which Spiro considered a successful prediction. Evans (1967) has challenged Spiro's results. This is because Spiro has deflated income by a GNP deflator. This according to Evans is wrong because personal disposable income should be deflated by an index which measures its purchasing power over those items which are actually bought directly with it i.e., only consumer goods and services. This is not the only definitional difficulty. The definition of real balances and the net wealth have also been used in a variety of ways. The fundamental question of the existence of the real balance effect could be answered differently depending upon the definition used. It is therefore believed that it is always useful to check the existence of the real balances by using more than one definition. This paper uses two of such possible definitions and with the use of time series data for six industrialised countries tries to examine the existence of the real balance effect.

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[*] University of Pittsburgh, Pittsburgh, USA

Economic Theory and the Real Balances

The origin of the real balance effect dates back to Pigou who tried to provide an answer to the Keynesian attack on the classicals' automatic mechanism of full employment. Given price, wage and interest flexibilities, classicals were experts in deriving a logical conclusion of the equilibrium in all markets. Aided by the Say's law of market, they needed no other explanation to have a policy of 'Laissez faire'. Keynes took an objection to the above logic by pointing out that in reality wages are rigid downwards, investment is interest inelastic and much depends on the psychological marginal propensities to consume and to save. Patinkin (1965) has elaborately reviewed all these theoretical discussions hence we will avoid ourselves from going into further details. In his neoclassical analysis of the theory of interest, prices and money, Patinkin has used the real balance effect more importantly than anyone else in the recent past. Nonetheless Patinkin is cautious enough to clear the fact that fulfillment to the analytical role by the real balances would depend not upon the 'strength' of the effect but merely upon the 'existence' of it.

The mechanism of restoration of equilibrium in the commodity market is made possible by the real balance effect. The working of that effect is not very hard to grasp. When prices go trumbling down, the value of the real balances will increase, those people who hold such balances will feel richer and will start consuming more to keep the value as before. More consumption necessarily means less savings so that the savings curve will shift to the left. Thus according to Pigou, with the adjustment of the price level we can always show an existence of some positive rate of interest which gives the equality of savings and investment.

The wealth effect which concerns with money wealth is called as price induced wealth effect. But as Metzler (1956) observes, there is no reason why we should restrict ourselves only on money wealth.

Price of real wealth is rate of interest and in the same way there is interest induced wealth effect. In Patinkin's analysis Metzler's interest induced wealth effect has not been given any consideration because Patinkin just assumes that the capital losses of some people will be exactly offset by some other people's capital gains. It is therefore believed that consumption in total will not be affected by interest induced wealth effect.

There has been some discussion about the definition of the real balances to be used while testing the empirical existence of the real balance effect. Patinkin has made it explicitly clear that the real balances are defined as net financial assets of fixed money value. Net financial assets are those assets whose value is unaffected by an equal increase or decrease in commodity prices[3]. By this he clearly means that bonds, time deposits etc. are included in the definition of wealth. Restricting their attention only on liquid assets, the most of the empirical studies mentioned by Patinkin in the footnote M, did not use this definition of the real balances. Pesek and Savings (1967) have addressed to this question in more details. Their purpose was to put the wealth effect on a firm analytical footing. There are two ways, they argue, in which the real balance effect could be brought into the play: one by changes in prices and the other by changes in money supply. If the changes in the commodity money, the pure fiat money and the bank money can bring about the wealth effect, then these moneys are also a part of the wealth. But money is produced at a zero cost. It is peculiar in a sense that it is produced at a zero cost but its price is not equal to zero. The price of money is a reciprocal of the price level. As Alvin Marty (1969) notes there are two qualititive restrictions on the definition of money which avoid its price from going to zero (or the price level from going to infinity). These constraints are (a) Bank money must be exchanged at a fixed rate for dominant money (i.e. fiat money of the government) and (b) Bank money must not pay interest. In so far as bank money does not pay interest and is money it is a part of the net wealth of the economy and is not meaningfully a liability to anyone. Therefore according to this definition bank money or bank deposits, bonds and other interest bearing assets are not a part of real balances. Therefore, Pesek and Savings insist that real balances should be defined merely as money supply or M_1. A compromise is achieved in this paper by defining real balances in both ways, one without bonds and savings deposits and the other with them.

Regression Analysis: Part I:

In this part real balances are defined in the way of Pesek and Savings i.e. just money supply. A representative consumption function that has been tested is denoted as

$$\frac{C}{P}=\alpha_0+\alpha_1\left(\frac{Y_1}{P}\right)+\alpha_2\left(\frac{M_1}{P}\right)+\alpha_3 r+u$$

where,

Y=GNP, (99a).
C=Private Consumption, (96f).
P=CPI (64).
M=Money (34).
r= discount rate (60).
u=constant of the regression.

As can be seen from the data tables at the end the units of measurement are the respective currencies of the countries. The figures in the brackets represent the number of row in the International Financial Statistics books. The results of the regression are summed up in the table number one, from which following observations could be made:

Table No. 1

Variable Name Country's Name	(Y/P) Real income coefficient (Significant ?)	(M/P) Real balances coefficient (Significant ?)	Rate of interest coefficient (Significant ?)	Constant of Regression (Significant ?)	R^2 of Regression	Durbin-Watson Statistic	Elasticity of Real Consumption w. r. f. Price level	Std-error of Regression
1. Sweden	·3917 (Yes)	·3521 (No)	·007872 (Yes)	015·05 (Yes)	·9869	1·387	—	·0216
2. United Kingdom	·4613 (Yes)	·02953 (Yes)	·0005554 (no)	004·906 (Yes)	·9867	1·6847	—·08457	·0063
3. United States	·6967 (Yes)	—·6988 (Yes)	·02234 (No)	098·52 (Yes)	·9971	0·7014	·2770	·0795
4. Germany	·4765 (Yes)	·3386 (Yes)	—·02166 (Yes)	026·48 (Yes)	·9986	1·2208	—·09486	0·426
5. France	·5255 (Yes)	·05732 (No)	·02917 (Yes)	028·63 (Yes)	·9962	0·6423	—	·0898
6. Italy	·5079 (Yes)	·1640 (Yes)	·0008736 (Yes)	002·526 (Yes)	·9981	1·7394	—·1251	·00496

Table No. 2

Variable Name Country's Name	(Y/P) Real income coefficient (Significant ?)	(M/P) Real balances (Newly defined coefficient) coefficient (Significant ?)	Rate of interest coefficient (Significant ?)	Inflation P/P coefficient (Significant ?)	Constant of Regression (Significant ?)	R^2 of Regression	Durbin Watson Statistic	Elasticity of real cons. w. r. f. price level	Std. error of Regression
1. Sweden	·4112 (Yes)	·01617 (No)	·006563 (No)	·03190 (No)	018·03 (Yes)	·9871	1·444	—	·02189
2. United Kingdom	·3485 (Yes)	·05767 (Yes)	·001225 (No)	—·01044 (Yes)	007·265 (Yes)	·9895	1·836	—·1987	·005716
3. United States	·4163 (Yes)	·2385 (Yes)	·002183 (No)	·04333 (No)	031·73 (Yes)	·9972	·7575	—·3444	·08013
4. Germany	·5420 (Yes)	—·01168 (No)	·03197 (Yes)	—·04149 (No)	032·19 (Yes)	·9985	1·079	—	·04533
5. France	·3160 (Yes)	·3477 (Yes)	·005860 (No)	—·02912 (No)	068·29 (Yes)	·9989	1·579	—·2015	·04332
6. Italy	·5821 (Yes)	·1583 (No)	·004449 (Yes)	—·003196 (No)	—001·569 (No)	·9805	1·487	—	·01177

1) The values of R^2 are high enough to confirm that the variations in the real consumption are fully explained by the right-hand side independent variables.

2) As noted before the data range from 1951 to 1976 so that n=26. The value of T statistic in the T table for n=26 shows that the hypothesis $\alpha_i=0$ (i=1,2,3) could be rejected if the observed T statistic is outside the range of ±1.315. With the significance level of 10% the significance of the variables is tested and is noted in the columns. Due to lack of space in the table, the observed T values are not shown.

3) All equations show a very high significance of the real income variable and it is fully convincing that income is the major determinant of the real consumption. The marginal propensity to consume is the lowest for Sweden which may be because of the large proportion of taxes they have to pay. For the other countries its value ranges from 46 to 69. In the real terms Americans consume the highest proportion of their income.

4) What is of more interest to us is the coefficient of the real balances. Four out of the six countries show the significance of this variable. Thus if we define the real balances in the way Pesek and Savings did, then the U.K., the U.S., Germany and Italy show the existence of the real balance effect. However in the case of the U.S. the sign of the coefficient is negative, This means that with an increase in the value of real money supply, the real consumption goes down. This phenomenon could be explained by the possible existence of the autocorrelation in that regression equation. As can be seen from the T values in the cases of Germany and the U.S. there is chance that the error term is correlated. In the statistical terms at least, that is the only explanation which could be given for the negative sign.

(5) Patinkin has calculated the elasticity of real consumption with respect to the price level and in the same way we have derived the column number 8 in table 1. It is defined as follows :

$$P=\frac{df\ (Y,\ X,\ M/P)}{dP}\times\frac{P}{C}$$

where,

C=f (Y, X, M/P), X contains all other variables.
P=Price Level.
C=Real consumption.

It could be shown that

$$P = -K_1 \times \frac{M}{P^2} \times \frac{P}{C} = -K\frac{(M/P)}{C}$$

where K is the coefficient of real balances. In our table only those elasticities are calculated which have M/P as a significant variable. Value of the elasticity shows the responsiveness of the real consumption to the changes in price level. Working of the real balance effect would depend upon how close this elasticity is to unity.

(i) The standard error of regression in all cases is shown in column 9, which shows all values low and hence satisfactory.

Regression Analysis : Part II :

In Part I, we had defined wealth term as money supply only. In order to define real balances in the way Patinkin has done, we will have to add time deposits, bonds and quasi money to the M_1. It would broaden our definition to turn it closer to the net assets. The amount of quasi money is defined as the time deposits held by treasury. Since the data are not available for all these values in the cases of France and Italy, we will have to reduce the sample number to 12 and 18 in these cases respectively. A new variable, relative price change (or inflation), is also added to test the existence of the price effect, if any. A representative equation of this part could be written as

$$(C/P) = \alpha_0 + \alpha_1(Y/P) + \alpha_2(M^o/P) + \alpha_3\gamma + \alpha_4\left(\frac{\Delta P}{P}\right)$$

where all the variables other than M^o, are defined in the same fashion as in Part I. M^o is calculated as Quasi Money+M_1+Bonds+Time Diposits. The results are tabulated in table number two from which some observations could be made very briefly. As could be expected again, the real income variable is a significant one for all countries with a slight decrease in the values of marginal propensity to consume. The changes in the price level should not affect the real consumption since the latter one is defined in real terms. As shown in the column 4 of table two the price effect is absent in all cases except in the case of the U.K. where its sign is negative. Real Balance effect could be observed again in column 3. The U.K., the U.S. and France show the significance of this variable. Thus only the United Kingdom shows an existence of the real balance effect in both parts with a correct (as expected by Neo-classicals) sign. More interesting is that there is a positive sign in the case of the U.S. in this second part. As can be recalled, even if the variable was significant in the first part the sign was negative.

With these results a strong doubt has been raised in the working of the real balance effect. It is not true that we did not see the apparent problem of multicollinearity in the above analysis. But the checking of this effect will always run into that problem no matter which method has been used. A better explanation of non-working of the real balance effect is hidden either in the complex structure of the capitalistic economies or there is something lacking in the neoclassical analysis which pretends to explain the general equilibrium. If our results are true, then neoclassicals do not have the necessary existence of the real balance effect which plays so important role in their analysis.

References :

1. Brown A.J.; "The Great Inflation", Chapter X, 1964, pp 136-37.
2. Cohen Morris, "Liquid Assets and Consumption Function", Review of Economics and Statistics, XXXVI, 1954, pp. 202-11.
3. Bronfenbrenner M. and Mayer T., "Liquidity Functions in the American Economy", Econometrica, XXXVII, 1960, pp. 817-18.
4. Evans Michael, "The Importance of Wealth in the Consumption Function", Journal of Political Economy, Vol. 75, Aug. 1667, Part I, pp. 335-51.
5. Lydall H. F., "Income Assets and Demand for Money", Review of Economics and Statistics, XL, 1958, pp. 3-7.
6. Marty Alvin, "Inside Money, Outside money and Real Balance Effect", Journal of Money, Credit and Banking, Feb, 1969, pp. 101-111.
7. Mayer T., "Permanent Income, Wealth and Consumption", University of California Press, Berkeley, 1972.
8. Meltzer A. H., "The Demand for Money : The Evidence from the Time Services", Journal of Political Economy, LXXI, 1963, pp.204-25.
9. Metzler Llyod, "Wealth, Saving and the Rate of Interest", Journal of Political Economy, 59, April 1951, pp. 93-116.
10. Patinkin Don, "Money, Interest and Prices : An Integration of Monetary and Value Theory", 2nd edition, New York : Harper and Row, 1965.
11. ...., "Price Flexibility and Full Employment", American Economic Review, XXXVIII, 1948, pp. 543-64.
12. Spiro Alvan, "Wealth and the Consumption Function", Journal of Political Economy. Vol. LXX, Aug. 1962, pp. 339-54.

FOOT NOTES

1. Mayer T., Ibid, page 264.
2. Patinkin Don, "Money, Interest and Prices", Page 654.

Public Expenditure in West Bengal 1951-52 to 1973-74

Sibani Datta*

The economy of West Bengal has passed through important social disturbances like partition, war with Pakistan, Chinese aggression, revolution in Bangladesh and consequent influx of refugees, etc. These had important influences on fiscal action in West Bengal. Further, the Government has set before itself lofty social and economic goals to be achieved through the Five Year Plans. Planning has had considerable impact on the ideas about the desirable public spending. Successively larger Government spendings have tended to make power acquisition easier. As a result public expenditure has grown fast. Growth in developmental expenditure is found to have kept pace with that of total expenditure. Though developmental expenditure is directly related to the pace of economic development of a backward economy, certain non-developmental expenditures such as expenditures on administration also exercise some influence on progress. However, with every increase in developmental expenditure, the addition to non-developmental expenditure should be less and less, otherwise efficiency will suffer.

Trends

The expenditure programme is a part of the fiscal policy of the State. The Government formulates programmes and undertakes different social and economic activities, the actual implementations of which are done through the acts of spending. Public expenditure is an important instrument for realising the objectives of State policy. The objectives tend to determine the magnitude and pattern of public expenditure. The magnitude and pattern of public expenditure of the constituent States in a federal set-up like India is determined jointly by the policy of the Central Government as well as of the State Governments. The attainment of objectives as set out depends on the willingness and the ability of the Centre and the States to pursue proper courses of action in their own sphere.

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* Muralidhar Girls' College, Calcutta.

The operation of public expenditure is the result of a series of 'value judgement' arrived at by a group of officials including the local bodies at the grass-roots level who carries on administration in the light of the broad decisions of the Legislature. The objectives of public expenditure are determined by the existing requirements of the community and the political ideology of the party in power. Hence, the objectives differ over periods. Yet a general pattern of the objectives of public expenditure can be formulated. These general objectives are to provide a minimum of certain services for the social, economic and physical security of the people, to promote the most effective utilisation of human and other resources, to stabilise the economy, among other things. The implementation of these objectives had led to the tremendous growth in public expenditure in the State of West Bengal.

The growth of public expenditure in the State of West Bengal, both on Revenue and on Capital Account, is shown in the following Table :—

Table 1 : Public Expenditure in West Bengal
(1951-52 to 1973-74)

(Rs. in Crores)

Year (1)	Total Expenditure on Revenue Account (2)	Total Disbursement : On Capital Account (3)	Grand Total (4)
1951-52	36.77	17.75	54.52
1957-58	69.20	37.36	106.56
1960-61	91.77	38.81	130.58
1970-71	294.68	114.19	408.87
1973-74	382.53	206.36	588.89
Percentage rise during the period 1951-52 to 1973-74.	+940	+1062	+980

Source :—The Reserve Bank of India Bulletins, 1953-75.

Public expenditure on Revenue Account was Rs. 36.77 crores in 1951-52, (i.e. the first year of the First Five Year Plan), but it rose to Rs. 382.53 crores in 1973-74 (i.e. the last year of the Fourth Five Year Plan) thus registering growth by more than ten times within a period of twenty-three years. Total disbursements on Capital Account which amounted to Rs. 17.75 crores in 1951-52, went up to Rs. 206.36

crores in 1973-74 i.e. a growth by more than eleven times in a period of twenty-three years. Total expenditure on both the accounts increased by ten times during the period 1951-52 to 1973-74.

Public expenditure of the State of West Bengal may be compared with that of the States of Assam, Bihar, Kerala, Orissa, Punjab and Tamil Nadu. The States of Assam, Bihar and Orissa are underdeveloped while Punjab, Kerala and Tamil Nadu are industrial. The State of West Bengal is regarded as one of the industrial States in India. Of course, there are the usual difficulties in the comparison of expenditure figures among the States and over the years. The reorganisation of States makes comparison among States difficult. Another difficulty arises from the changes in presentation and classification ; the figures presented by the Reserve Bank of India Bulletins differ from the figures in the State Budgets as the object of the Bulletins is to show the real budget of the States rather than an accountant's budget. Commencing from 1956-57, works of a capital nature, the cost of which exceeds Rs. 20,000 and similar works which form part of a scheme whose total cost exceeds Rs. 1 lakh, are, however, presented as capital expenditure outside the Revenue Account. After the constitution of Electricity Boards in the States, the entire transactions of the Electricity Boards are conducted in the 'Personal Deposit Account' kept in the Public Account of the Governments. This has affected the capital budgets of the States. Formerly the capital expenditure on this account was shown as capital expenditure outside the Revenue Account. Such presentational changes have made difficult the comparison of expenditure data for the States over years.

Public Expenditure on Revenue Account increased during the period 1951-52 and 1973-74 by 14.5 times in Assam, 10.7 times in Bihar, 20.1 times in Orissa, and 14.6 times in Punjab. In Kerala, it increased by 4.4 times during 1961-62 and 1973-74 and in Tamil Nadu by 3.2 times during 1967-68 and 1973-74. Total capital disbursement increased by 40.7 times in Assam, 11.5 times in Bihar, 8.5 times in Orissa and by 3.3 times in Punjab during 1951-52 and 1973-74. In Kerala, it increased by 3.4 times during 1961-62 to 1973-74 and in Tamil Nadu by 1.1 times during 1967-68 to 1973-74.

Public Expenditure and State Income

Public expenditure affects State income both in real and in money terms. It does so by altering the supply of factors via its effects upon ability as well as desire to work and save and also by affecting the level of spending.

The estimate of State income is the most convenient single measure to denote economic performance of a State. Increase in real output over times gives an indication of economic growth of the State. Hence it is interesting to study the trends of State income.

The State income of West Bengal (at 1951-52 prices) recorded a cumulative growth rate of 4.7% during the period 1951-52 to 1960-61 as against the corresponding growth rate of 3.8% per annum of the National Income of India. The State income (at 1960-61 prices) recorded an annual cumulative growth rate of 3.8% against the corresponding growth rate of 2.5% in the National Income of India over the period from 1960-61 to 1965-66. The annual cumulative growth at the State and national levels for the period from 1965-66 to 1969-70 showed 2.7% and 4.6% respectively.

The State's per capita income (at 1951-52 prices) rose annually at at a cumulative rate of 1.2% during the period 1951-52 to 1960-61, while the annual cumulative growth rate of national per capita income (at constant prices) showed a rise of about 1.8%. During the Third Plan period, the State's and the national per capita income in real terms showed annual cumulative growth rates of 0.56% and 0.07% respectively. The growth rates of per capita income at the State and national levels for the period from 1965-66 to 1969-70 showed 0.4% and 2.3% respectively, thus reversing the previous position.

From 1951-52 to 1973-74, there is a striking increase in total Government expenditure (both on Revenue and on Capital Account) in money terms. From Rs. 54.52 crores in 1951-52 public spending rose to Rs. 588.89 crores in 1973-74 (both Revenue and Capital Accounts combined). The State income in money terms increased far less rapidly by comparison (from Rs. 731 crores to Rs. 4268 crores). Thus while Government expenditure increased by more than 10 times, State income increased by nearly 6 times during the period. Growth of public expenditure pari passu with State income is shown in the Table below.

It is observed from the Table that the share of public expenditure in State income was 7.5 per cent in 1951-52 and 13.8 per cent in 1973-74. Here it will be interesting to observe the finding of A. M. Martin and W. A. Lewis[1]. After having compared the revenues and

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[1] A. M. Martin and W. A. Lewis, "Patterns of Public Finance and Expenditure" in the Manchester School of Economics and Social Studies, Sept. 1956.

Table 2 : Government Expenditure and State Income, West Bengal 1951-52 to 1973-74.

Year	Total Govt. expenditure (Rs. Crores)	State Income (Rs. Crores) (at current prices)	Per Capita Government Expenditure (Rs.)	Per Capita Income (Rs.) (at current prices)
1951-52	55	731	21	289
1957-58	107	880	33	282
1960-61	131	1099	38	319
1970-71	409	3267(P)	93	747(P)
1973-74	589	4268(Pr)	125	909(P)

Note ; P—Provisional.
Pr—Preliminary.

Source : (1) Reserve Bank of India Bulletins : 1953-75.
(2) Estimates of State income and regional differences, Government of West Bengal, 1969.
(3) Economic Review 1975-76, p. 5 Government of West Bengal.

expenditures of sixteen centuries at different levels of economic development (in order to discover what patterns are appropriate at different levels of development), they remarked, the Governments of countries making a special development effort will find themselves spending between 19 and 22 per cent of Gross National Product. But in the State of West Bengal we find the share of public expenditure in State income to be very low.

The growth of Government expenditure and State income in money terms do not give the real growth as there are 'permanent influences' that affect such growth (like population growth, price changes). During the period under study the rate of increase of population varied from decade to decade. The growth rate of population went on changing from one decennial year to another. The population increased at 3.3% per annum between 1951 and 1961 ; at 2.7% per annum between 1961 and 1971. Expressed in terms of per head of population, the figures of Government expenditure are directly comparable because changes in population due to secular growth are allowed for. In money terms the Government expenditure per head of population rose from Rs. 20 in 1951-52 to Rs. 125 in 1973-74 while State income per capita rose from Rs. 289 in 1951-52 to Rs. 909 in 1973-74.

Rise in Government expenditure in money terms is due largely to rise in prices. The influence of price changes on the growth of Government expenditure and State income can, of course, be removed by deflating the available figures in terms of changes in the wholesale price index. As it is not likely for us to have index data for the State of West Bengal for any year, it is not possible for us to deflate the changing figures of State income.

The Statistical Results

Statistical study measuring the impact of some variables on total expenditure (Revenue and Capital Accounts) on developmental expenditure and non-developmental expenditure during the eighteen year period, 1956-57 to 1973-74, shows that the impact of per capita income on expenditure on Revenue Account during the entire period has been not only positive but highly significant. The impact of financial transfers from the Centre on expenditure on Revenue Account turns out to be much more substantial than it has been in the case of debt service expenditure on Revenue Account. Per capita income has also got a positive influence on expenditure on Capital Account as well. But its impact independently of any other determinant on expenditure on Capital Account is much less than that of per capita income on expenditure under Revenue Account. This phenomenon is explained by the very fact that the magnitude of expenditure on Revenue Account is much larger than it has been in the case of expenditure on Capital Account. It is further observed that total expenditure on both Accounts tends to increase more than proportionately in relation to per capita income. The degree of urbanisation* has a more similar significant and similar effect on total expenditure during the period, though it is simultaneously noted that the behaviour of the Central Transfers via-a-vis total expenditure does not undergo any significant change during the period. It is recognised that the impact of debt services expenditure via income flows is very negligible. Naturally enough, the correlation co-efficients and standard errors are highly satisfactory. The regression coefficients reveal several positive signs in all cases and the impacts are impressive enough. R^2 in each case exhibits utmost strength. Developmental expenditure tends to increase more than proportionately as the degree of urbanisation increases. Again, the Central transfers tend to account for a larger impact on developmental expenditure than per capita income and it is only next in importance to the degree of urbanisation The influence of the three determinants is more or less the same on non-developmental expenditure under both Accounts. The elasticity of per capita public expenditure/per capita income ratio rises with a rise in per capita income. And it never turns negative. Influences related to the income elasticity of demand for government expenditure are not outweighed by influences related to the availability of tax and non-tax handles which are reinforced by the Central transfers. The hypothesis that public expenditure responds freely to the rise in the level of State income or per capita income and that the size of the public sector expands in response thereto are tested. The empirical evidences as demonstrated above tend to support this hypothesis.

Summing Up

Government expenditure has grown at a faster rate (i.e. by more than ten times) than the State income (i.e. by five times) during the period 1951-52 to 1973-74. This is in line with the Wagnerian doctrine. However, public expenditure and economic development in West Bengal are not as progressive as in other States. The all-round progress is realisable through greater mobilisation of State's resources, larger financial transfers from the Centre and lastly by appropiate, efficient and equitable public expenditure budgets.

EMPLOYMENT EXCHANGE STATISTICS

Year-Month (1)	Average No. of applicants placed in employment during the period (000) (2)	No. of applicants on the live register at the end of the period (000) (3)	Average No. of vacancies notified during the period (000) (4)
1970 ●	37	4,069	62
1975	34	9,326	57
1976	41	9,772	70
1977	38	10,924	67
1978	38	12,678	69
1979—January	41	13,148	70
Februry	36	13,282	63
March	40	13,406	74

Source : Directorate General of Employment and Training, New Delhi.

Employment Policy in Developing Countries: Intensive Agriculture in India

H. Bhakta*

Unemployment is a socio-economic problem closely related to the problems of poverty, inequality and low productivity. Till very recently we have been looking mainly to economic growth and rise in GNP as a solution to these problems. However, over the decade of 1960's GNP in most developing countries grew at a rate higher than the rate at a comparable stage of development of industrially developed countries. At the same time, problems of unemployment, poverty, inequality and low productivity have mounted. Hence, wind is blowing in favour of the contention that productive employment of labour force is a one-stroke solution of these problems. "A policy of full employment is the first and most effective component of a programme to eliminate extreme poverty".[1] "There the most important if not the only means of redistribution of income may consist of increasing the rate of employment".[2]

Labour is the principal means and inseparable component of the production system. The process of reproduction demands that labour resources should be properly utilised. The neo-classical law of accumulation implies that with the process of capitalist development the proportion of living labour is reduced in production mechanism. Man is displaced by machine. The demand of labour lags behind the growth of accumulation. Workers are thrown out of production and they have become redundant.

However, in developing countries the process of reproduction is distorted by the dual nature of economy. The traditional sector mainly rural is governed by pre-capitalist laws. High birth rate, an inherent feature of pre-capitalist societies and rapid decline in death rate consequent on progress in medical sciences in advanced countries, result into rapid growth rate of population and the extended reproduc-

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* Univertity of Bihar, Post-Graduate Centre, Rajendra College, Bihar.

tion of labour force with low level of general education and professional training. Two-third of labour force producing primary products like raw materials and food intakes are employed in agricultural sector. Labour productivity is lower up to 20-30 times than in advanced countries. A substantial portion of work force formally employed in agriculture is surplus. They can be removed from it without any loss to production. Another feature is the migratory character of the labour force. They migrate during bleak season in search of jobs not only in neighbouring cities, but also in neighbouring countries.

On the other hand, their expected and promised absorption in the modern industrial sector is not achieved. Not only the growth of industrial production is unsatisfactory, but employment growth lags behind industrial growth. Side by side the high rate of unemployment, and the demand for skilled workers are not completely satisfied. There is the unused capacity up to 70 per cent in some industries. All this leads to low productivity of labour up to one-fifth as compared to advanced countries.

Further, in these countries the growth of urbanisation is an indication of backwardness and distorted development rather than the mark of high rate of development. It is not a consequence of industrialisation but of mass flight from the rural sector. Thousands of people no longer able to get work and to bear hunger and so leave the villages. Besides capital cities draw people from villages and minor towns like magnet. In other words, urbanisation implies the transfer of poverty, under employment and unemployment from rural sector. U.N. Secretary-General also notes,"......in contrast to the urbanisation of now industrialised countries which was both the cause and effect of industrialisation, the urbanisation which has taken place in the developing countries represents to a great extent, a transfer of poverty, under-employment and unemployment and poor living conditions from rural areas to the cities".[3]

Thus, the problem of unemployment in developing countries is quiet different from unemployment in industrially advanced countries. In the latter countries unemployment stems from capitalist accumulation and continuous qualitative change in the organic structure of capital, when "the labouring population......produces along with the accumulation of capital produced by it, the means by which it itself is made relatively superfluous, is turned into a relatively surplus population ; and it does this to an always increasing extent".[4] It is basically the problem of reserve army of industrial hired workers.

On the other hand, unemployment in developing countries is the manifestation of the imbalance between the available resources and the existing material and technical basis. Qualitative development of labour force is low. Population growth is high. There is dominance of simple labour over machine labour with low level of literacy and professional training. Surplus labour cannot be called a reserve army for it not only is not reabsorbed during the period of industrial upsurge ; it is as a rule isolated from modern industrial production. It is of the masses of petty proprietors, selfemployed persons, peasants, craftsmen and small merchants living on the verge of poverty. The dominant form here is not unemployment in its pure form, but chronic and hidden unemployment i.e. low productivity employment. Besides, there is increasing problem of unemployment in the urban areas swelled by migrants from rural areas seeking employment. Thus, the problem of employment in developing countries is mainly rural based. India is no exception.

One of the intriguing features of India's planned economic development is the negligible change in the proportion of labour force dependent on agriculture over so many decades. Agriculture and allied occupations employ today more than seventy per cent of the total labour force i.e. the position occupied in 1930, the impoverisment in rural sector is reflected in the increase of marginal farmers and agricultural labourers. The number of marginal farmers—say below one acre land—increased by 51 per cent i.e. from 23.6 million to 36.6 million and the number of agricultural labourers by about 75 per cent i.e. from 27.1 million to 47.5 million during the period 1961-71. Marginal farmers join the agricultural labour force as earnings from their holdings become progressively inadequate to support the rising number of dependents.

Open unemployment is not very large. It was only 2 million or 0·1 per cent of the rural labour force in 1972-73 according to 27th round of NSS. The rural unemployment rate on any given day (in 1972-73) is nearly 8 per cent as is evident in Table 1.

Table—1

Rural Unemployment rate according to 27th Round of the NSS

		Per cent			Per cent
1st round	...	6.82	3rd round	...	9.32
2nd round	...	8.15	4th round	...	7.07

Source : D. T. Lakdawala 'Growth, Unemployment and Poverty', Presidential Address, All India Labour Economic Conference, Tripathi, 1977.

Thus, the income and living standard of the labour force excepting the small minority who has some rental or interest incomes can be increased by increasing the productivity and/or providing larger opportunities for gainful employment in agricultural and non-agricultural sectors.

The experience of planned development in India suggests the limited absorptive capacity of non-agricultural sector. There has been only 5 per cent increase in employment per annum in organised sector. Total factory employment increased from 24 lakhs to 47 lakhs during 1951-71. The compound rate of increase was 1.7 per cent per annum in the first plan, 3.9 per cent in the second plan and 4.7 per cent in the third plan as against 1.91 per cent growth rate of population during 1951-61. The per cent of population employed in manufacturing has declined from 29 to 25 during 1961-71. The capital intensive large scale industries at present employ approximately between 9 and 11 per cent of the total labour force. The back-wash effects of industrialisation are distinct while spread effects are very weak. Perhaps this has prompted the makers of Sixth Five Year Plan in India to opine, "In the next five years, the rate of growth of large scale industry is expected to be 6 to 7 per cent a year. Therefore, employment in the organised sector may grow 3 to 3.5 per cent a year. But this growth will annually absorb only 0.3 per cent of the labour force. Therefore, the solution of the employment problem will have to be sought in increasing income and employment in agriculture and allied activities and in small scale manufacturing and service sectors."[5] Examples of other countries are also cited in support of this view. Our arable land employs 92 hands per hundred hectares as compared to 219 in Japan ; 181 in Egypt ; 224 in Indonesia ; 261 in South Asia ; 229 in Nepal ; 242 in Vietnam ; 153 in Laos and 119 in Thailand: It is also said that at the existing level of technology the possibility of gainful absorption of labour force in Indian agriculture has not been fully exhausted.

Employment opportunities in agriculture can be created either by extensive or by intensive cultivation. The scope of extensive agriculture has reached near saturation point.

Under intensive agriculture, output are increased by the extensive use of other inputs the area of land remaining the same. Among other inputs extension of irrigation facilities, increased use of high yielding variety seeds and chemical fertiliser are the determining factors. Land reforms, extension of infra-structure and technological improvements are also important. Here employment opportunities are increased *with the increase in output.*

However, so far no conclusive study has been made on the relationship between intensive agriculture and employment opportunities. John W. Mellor[6] and C.H. Hanumantha Rao[7] in their separate studies, using the cross-section data with state as the primary unit for years 1969-71 have not found any significant correlation between per hectare gross output and per hectare number of agricultural labourers. The results of Mellor shows the output employment elasticities at 0.3 and of Rao at 0.75. The Second Asian Agricultural Survey in the study of output employment relationship suggests a figure in the range of 0.4 to 0.6 per cent in the more labour intensive countries of South East Asia. For a country like India, a figure of 0.5 per cent may be more realistic. If this relationship holds true, as V.S. Vyas estimates, a growth at the rate of 4 per cent in agricultural output will be needed just to absorb additional work force from agricultural households. Such a rate of growth will not make any dent in the existing level of unemployment or under-employment in the country-side.

The above output employment relationship is based on the assumption that the main source of agricultural output is the irrigation-based technology with high yielding seeds and chemical fertiliser as the key inputs. But institutional factors may also disturb this relationship adversely. For example, in Punjab and Haryana, two of the fastest growing states, the number of agricultural workers per hectare is only 0.44 and 0.37 respectively as against 0.80, the national average.

It has also been noticed that in the past in some areas extension of HYV technology was accompanied by labour displacing mechanisation at least on large farms. The labour displacement was sizable in operations or preparatory tillage, interculture and threshing. In such situations larger output has been attained by the substitution of capital for labour.

Besides, there are other constrains too. On small farms, per hectare labour use in labour intensive cropping patterns and greater cropping intensity entail greater cash expenditure. The existing credit institutions are not in a position to cope with the problem. Further, the intensification of agriculture requires expansion of infrastructure facilities, the development of which requires allocation of huge investable financial resources. This also sets limit to the potentialities.

Furthermore, the scope of employment opportunities in intensive agriculture is not unlimited. The limit is reached when economic exploitation of irrigation potential at the existing state of knowledge is realised. In this context, National Commission on Agriculture after an elaborate exercise has come to the conclusion that by 2000 AD expansion in various agricultural programmes (including those in animal husbandry, forestry and fishery) will generate employment opportunities for about 52 million persons. As against this there will be an increase of 143 million persons in the total rural labour force by that year.

On the basis of above analysis we come to the conlusion that we are not definite of the favourable impact of intensive agriculture on creation of additional employment opportunities Even though we accept its favourable effects, it is not sufficient for full utilisation of manpower available in the country. Besides, the problems of low productivity are there. Labour intensive production marked by low labour production cannot withstand the competition in the market. It has no future. Priority to development of labour intensive enterprises by limiting the construction of capital intensive projects means in practice retarding economic progress and leads to a further aggravation of the problems of economic development including the problem of employment. No country, no matter how urgent its employment problem, can perpetuate its technological backwardness in future, orienting itself towards labour intensive processes and renouncing modern technology. Hence, the developing countries should invent highly productive labour intensive and capital saving technology as contrast to labour saving and capital intensive techniques invented to the needs of industrially advanced countries for the solution of the problem of unemployment.

Foot Notes

1. I. L. O. "Towards Full Employment : A Programme for Colombia, Geneva, 1970, p. 139 (Colombia Report).
2. Lefeber L. "Planning in Labour Surplus Economy", American Economic Review, June 1968, p. 344.
3. Development and Utilisation of Human Resources in Developing Countries, Report of the Secretary-General, United Nations Economic and Social Council, 43 session, E/4353, Add I, New York, 1967, p. 69.
4. K. Marx, Capital Vol. I. Moscow, 1972, p. 501.
5. Draft Five Year Plan (1978-83), Government of India, Planning Commission, p. 113.
6. Mellor John W., "The New Economic of Growth", Cornell University, Press, 1976.
7. Rao C. H. H., "Green Revolution and Labour's Share in Output", "Agricultural Situation in India", August, 1971.

Social Desirability Versus Economic Rationality of Individual Farmers—A Case Study of Sugarcane Growers in Maharashtra

A. Mukhopadhyay* and G. N. Rao**

Reaction to the recent expansion of sugarcane area in Maharashtra is a mixed one. There is a growing concern in some quarters that if this process of expansion of sugarcane area goes unabated, the effect will be catastrophic as the augmentation of production of other crops specially that of cereals like jowar, bajra, etc., will be stalled. The sweetness of sugarcane will be accompanied by bitterness of sacrifice of other crops. Table 1 presented below broadly shows an inter-temporal positive correspondence between gross area irrigated and area devoted to sugarcane production in Maharashtra.

Table 1 : Inter-temporal Movement of Gross Area Irrgated and Area Under Sugarcane in Maharashtra

(In thousand hectares)

Year	Gross Area Irrigated	Area Under Sugarcane
1962-63	12,78	1,35
1963-64	13,08	1,36
1964-65	13,65	1,59
1965-66	13,88	1,71
1966-67	14,13	1,55
1967-68	14,76	1,58
1968-69	15,57	2,01
1969-70	16,23	2,22
1970-71	16,48	2,04
1971-72	16,22	1,94

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*Reader, Bidhan Chandra Krishi Viswavidyalaya, Kalyani, West Bengal.

**Gokhale Institute of Politics and Economics, Poona.

Table 1 Contd.

Year	Gross Area Irrigated	Area Under Sugarcane
1972-73	14,67	2,06
1973-74	17,67	2,15

Source : Government of Maharashtra, Handbook of Basic Statistics, Bureau of Economics and Statistics.

The spokesmen of anti-sugarcane lobby argue that expansion of sugarcane acreage will adversely affect the attainment of self-sufficiency in foodgrains. They emphasize very often that expansion of sugarcane area at the cost of cereal crops is socially undesirable because sugarcane heavily drags upon water which can be treated as the most scarce input in Maharashtra. Table 2 bears some testimony to their contention.

Table 2 : Value of Output of Sugarcane and Other Competing Crops Per Unit of Water in Ahmednagar District

Crop	Year	Value of per hectare (Rs.)	Irrigation charges per hectare (Rs.)	Value of output per Rs. of expenditure on irrigation 5=3/4 (Rs.)
(1)	(2)	(3)	(4)	(5)
Jowar	1967-68	643.83	19.38	33.22
Jowar	Average of 1969-70 to 1971-72	604.26	19.88	30.40
Bajra	1967-68	455.41	20.43	22.29
Bajra	Average of 1969-70 to 1971-72	679.30	15.10	44.99
2 Bajra+ 1 Jowar	1967-68	1554.65	60.24	25.81
2 Bajra+ 1 Jowar	Average of 1969-70 to 1971-72	1962.86	50.08	39.19
Sugarcane Planted	1967-68	2674.75	1988.70	6.37
Sugarcane Planted	Average of 1969-70 to 1971-72	8118.80	242.26	33.51
Sugarcane Ratoon	Average of 1969-70 to 1971-72	5899.56	206.96	22.60

Source : Studies in the Economics of Farm Management in Ahmednagar District of Maharashtra—Reports for the year 1967-68 and for the triennium ending 1971-72. Directorate of Economics and Statistics, Ministry of Agriculture, Government of India.

The cost data on sugarcane presented in the Farm Management Reports for the triennium ending 1971-72 seem to be unduly depressed possibly due to consideration of agricultural year rather than crop-year for the purpose of estimation. Sugarcane being mostly an 'adsali' crop (of 18 months duration) in Ahmednagar, the consideration of agricultural year is likely to depress the cost of irrigation *inter alia* other costs involved in production.

Even on the basis of supposedly depressed data on irrigation cost per hectare of sugarcane reported for the said triennium, the value of output per rupee of expenditure on irrigation is noted to be below that reported for jowar or bajra. As 2 bajra crops and 1 jowar crop can be grown during 18 months which happen to be the growing period of 'adsali' sugarcane, the value of output of this crop-combination per unit of irrigation expense is noted to be Rs. 99.19 as against Rs. 33.51 reported for planted sugarcane for the triennium ending 1971-72. On the basis of the data reported for 1967-68, the value of output of this alternative crop-combination (consisting of 2 bajra and 1 jowar crops) per unit of expenditure on water stands at Rs. 25.81 as against Rs. 6.37 reported for planted sugarcane in Ahmednagar district. That the figure representing irrigating expenses per hectare of sugarcane reported for the triennium 1969-70 to 1971-72 is unduly depressed can be made out from Table 3 which shows differential water rates for sugarcane and other seasonal crops charged by Government of Maharashtra.

Fairly recent data on irrigation charges and value of output of a number of crops including sugarcane available for the Girna irrigation project area in Jalgaon district of Maharashtra are set out in Table 4.

Table 3 : Water Rates Per Hectare to be Charged on Flow and Life Irrigation for Different Crops

Name of the crop	Water Rates (in Rs.) 1st July 1974 to 30th June 1975		1st July 1975 to 30th June 1976	
	Flow	Lift	Flow	Lift
Sugarcane	510.00	190.00	750.00	250.00
Rabi Seasonals	57.50	20.00	75.00	25.00
Kharif Seasonals	37.50	27.50	50.00	37.50

Source : Government of Maharashtra, Revenue and Forests Department, Resolution No. WTR-1065/45463-C, dated 5 5-1965, Sachivalaya, Bombay.

Table 4 : Value of Output of Sugarcane and Other Competing Crops Per Unit of Water in Girna Irrigation Project Area in Jalgaon District (1975-76)

Crop	Value of output per hectare (Rs.)	Irrigation charges per hectare (Rs.)	Value of output per Rupee of expenditure on irrigation (Rs.)
Sugarcane (Suru)	14772.17	837.14	27.50
Sugarcane (Adsali)	16402.30	811.19	20.22
Paddy	2476.06	99.48	24.89
Wheat	3512.48	110.69	31.73
Local Bajra	1446.39	61.15	23.65
Hybrid jowar	2060.48	63.71	44.90
Local Jowar	1861.36	71.14	26.15

Source : R. N. Patil et al. Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra), The Socio-Economic Survey of Girna Irrigation Project Area in Jalgaon District (1978).

It becomes evident from Table 4 that the value of output per rupee of expendiure on irrigation is higher for all the crops enlisted if compared with that of sugarcane (Suru). The value of output per rupee of expenditure on irriagation is remarkably higher in the case of hybrid jowar and wheat even if compared with the respective magnitude noted for 'adsali' sugacane. It may be noted, again, in the context that the irrigation and other expenses reported for 'adsali' sugarcane are possibly depressed to some extent due to consideration of an agricultural year rather than a crop year for the purpose of estimation of costs. Thus, it is established from the foregoing discussion that if differential irrigation expenses reported for different crops properly reflect their differential water requirements, expansion of area under irrigated sugarcane at the expense of some of the irrigated crops cannot claim any justification from the social point of view if water is regarded to be the most scarce factor in Maharashtra. This confronts us with a pertinent question : if expansion of area under sugarcane is not socially justifiable why then the farmers are expanding their sugarcane acreage ? The answer to this question is quite simple. It is to be borne in mind that there may be divergence between economic rationality of individual farmers and social desirability of an action. The farmers who have the necessary wherewithals will certainly tend to grow sugarcane even at the expense of other crops because sugarcane has definitely marked comparative advantage over others as is revealed in Table 5 which presents surplus over different cost bases for sugarcane and its important competing crop-combinations.

Table 5

Surplus Over Different Bases of Cost per Hectare in the Production of Sugarcane and Other Competing Crops in Ahmednagar and Jalgaon, Maharashtra

(Rs. per hectare)

	Surplus over		
	Cost A (Farm Business Income)	Cost B (Family Labour Income)	Cost C (Net Profit)
Ahmednagar, 1967-68			
Irrigated Local Bajra	201.46	40.27	—28.65
Irrigated Local Jowar	313.74	97.69	—18.60
Irrigated Sugarcane (Adsali)	5152.83	4134.48	4000.30
Girna Irrigation Project Area, Jalgaon			
Local Bajra (Irrigated)	688.25	343.69	132.19
High-yielding Bajra (Rainfed)	1062.66	670.39	570.84
Local Jowar (Irrigated)	1926.17	611.15	461.60
High-yielding Jowar (Irrigated)	1770.82	1181.66	1097.02
Wheat Irrigatated	2199.56	1511.20	1420.69
Paddy Irrigated	1225.34	708.94	610.59
Sugarcane (Suru) Irrigated	10104.56	7538.38	358.52
Sugarcane (adsali) Irrigated	11279.17	8481.38	8161.09

It remains to be noted from Table 5 that the magnitude of surplus over any of the cost bases reported for sugarcane is glaringly higher than that of any of its competing crop-combinations. In view of such a remarkable difference in the relative profitability per hectare in favour of sugarcane it is but expected that economic rationality of the individual farmers will dictate them to expand their area under sugarcane with every increase in area irrigated.

The conflict ensued between social desirability and economic rationality of the individual farmers has become such a debated issue that there is demand from some segment of the population that expansion of sugarcane area should not be allowed to go unabated in Maharashtra. What is more, they even suggest the imposition of compulsory acreage control for sugarcane. Apart from providing the argument that expansion of sugarcane area will retard the achievement of self-sufficiency in foodgrains, the spokesmen of anti-sugarcane lobby also point out the health hazards due to population of canal water caused by uncontrolled expansion of sugarcane. The voice against further expansion of sugarcane area in Maharashtra has reached such a pitch that it may no longer be possible for the Government of Maharashtra to ignore outrightly the demand for control of sugarcane acreage. This control may be sought either through imposition of direct acreage control or indirectly by raising the water rates charged for sugarcane to a substansial extent. A set of measures to indirectly control the acreage under sugarcane is furnished by the Dandekar Committee which was set up to "Study the Introduction of Eight Monthly Supply of Water on the Irrigation Projects in Maharashtra". In their Interim Report (1979) they suggested measures intended to discourage the use of canal water for sugarcane cultivation. Among other things, they suggested the following guidelines of policy :

(i) No additional water should be sanctioned to sugarcane except in water surplus areas where there is very little cultivation of sugarcane.

(ii) In places other than water surplus ones, while issuing licence to a new sugar factory "care should be taken to ensure that the factory will be taken to ensure that the factory will be supplied with sugarcane exclusively irrigated by ground-water.

(iii) Again, in such places, the existing factory should not be allowed to expand its capacity.

Thus, the conflict between social desirability and (individual) economic rationality has assumed serious dimensions necessitating the enunciation of and adherence to clear-cut policies by the Government of Maharashtra.

Training and Research as Instruments of Efficient Banking for Rural Development : An Observation

Arun Kumar Mukhopadhyay*

In recent years there has been a revolutionary change in the philosophy of lending by commercial banks. This change is mainly two-fold : the transformation of purely commercial banks into development banks, and the diversification of bank operations across the traditional boundaries to purely new field of agriculture, more accurately, rural sector as a whole. As its result, the burden of risk and responsibility both in terms of business and social commitment of the bank as a change agent has become heavier on the part of the commercial banks. Mainly inexperienced so long of the rural situation in terms of its complex agrarian relations and general socio-economic backwardness, the commercial banks operating in rural areas have been facing a lot of problems to be tackled. The identification of those problems in true perspective and analysis of them with proper direction towards their solutions meaningful to the banking institutions are considered as the essential prerequisites for a successful bank functioning in the rural sector. This position suggests an urgent need for human resource devlopment in terms of adequate knowledge and expertise in regard to the entire rural spectrum, specifically the down-to-earth problems of development in rural areas and pragmatic solutions to them.

Since the commercial banks now have gone far beyond mere lending in rural areas and thus undertakens various rural development programmes, the problems commonly faced in course of both the formulation and implementation of those programmes are naturally multi-dimensional—broadly classified into structural and non-structural in character. There may be, therefore, variety of situations where different factors are operating with different degree of stress and strain. Sometimes socio-psychological factors become more pronounced

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Deputy Director (Economics), National Institute of Rural Development, Hyderabad.

(operating in positive or negative direction) than the economic factors (suggesting the oft-used terms like feasibility, viability, bankability, etc.) with which banks are likely to be more concerned. For example, my recent evaluation study* of a UBI Group Loan Scheme in West Bengal highlights the socio-psychological factors as more dominating than economic ones behind the case of a huge default in repayment of both group loan and supplementary crop loan. If this sort of situation is accepted as a down-to-earth reality and suggests multidimensional approach to rural development in so far as the role of banks in areas is concerned, the present banking institutions are certainly to reorient, equip and develop human resource as the most important input in the developmental activities of the banks in rural areas. In recent years it is found that the need for human resource development through training and orientation of the bank personnel working in rural branches and agricultural development branches has been realised by most of the commercial banks which have already added stress and strength to the training content of the bank management and created research and development division of the bank. It is also found that despite this felt-need of the banks, most of the staff training colleges with training centres under the commercial banks have been functioning more ritualistically than effectively. As a result of this, traininiog of bank people fails to contribute, to a desirable extent, to the proper implementation of the rural development programmes initiated by the banks. My personal view is that the training programmes at the bank's Staff Training Colleges should be properly conceived mainly in the spirit of the down-to-earth situations. To make the training effective both the training and the research should go hand in hand and both these functions will be carried out preferably under one department to be known as Research and Training (R & T) Department. There are strong arguments in favour of this integration. Firstly, there is already a cell or division for research and development attached to every important commercial bank, but in practice does it serve meaningful purpose ? The reality is that the present research and development cell has no very clear objective and scope of functions, nor does it contribute to the clear understanding of the field problems relating to clientele and other aspects of rural development, and help in arriving at realistic solutions, even if they are at all meaningful to the bank at a certain level, are not usually used as input in the training programmes of the Staff Training Colleges of the Banks. So, there are many a gap at conceptual and management levels of banking operations. In order to make research and training in a bank fruitful, the following proposals can be advanced for consideration :—

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* A Lead Bank's Group Loan Scheme for Small Farmers : A Study in West Bengal, December 1978, National Institute of Rural Development, Hyderabad 500030, (A. P.) India,

It is true that within the broad framework of national credit and development policy, the bank is to formulate lending and development schemes and implement them in the selected fields after examining the profile of the means concerned. Here comes the role of R & T Department which is to prepare this profile of the area on the basis of data collected from the field, and help the entire process of preparation of those schemes. The field level functions both technical and non-technical concerned with the implementation of the scheme should be called down to the Training College in order to appraise them of the scheme and orient them in the spirit of the scheme so that the possible difficulties they would face in the course of implementation may be duly tackled in their respective areas. The next stage of evaluation and monitoring in regard to the non-going scheme should be taken care of by this R & T Department with the help of its own and field functionaries. The research findings and recommendations thereupon made by this Department should be further cystalised and given operationalised forms through discussions and deliberations on the research and the training forum (to be provided by the R & T Department) among the different levels of personal of the bank management. The documents to emerge as a result of this exercise would be properly used as course materials to the trainees at the Staff Training College. Providing forum for meaningful purposes, the R & T Department will act as laboratory for analysis of field problems with the necessary opportunity and find out solutions most suitable for the bank and pass on to the field level functionaries through training and orientation.

Finally, the syllabus of the training course programmes under R & T Department should (i) stress upon the analysis of field problems viewed from both technical and non-technical (socio-economic) standpoints ; (b) include various training (i.e. syndicate method, case study method, group discussion and panel discussion methodology, etc. suitable for different situations and issues ; (c) arrange the relevant and guided field visits by the trainees ; and (d) provide scope for preparation of development plan for rural development.

ARAB MONETARY FUND

The AMF's objectives are: correcting disequilibria in the balance of payments of member states; promoting the stability of exchange rates of Arab currencies; tendering advice, whenever called upon to do so, with regard to policies related to the investment of financial resources of member states in foreign markets; promoting the development of Arab financial markets; studing ways to expand the use of the Arab accounting dinar as a unit of account and paving the way for the creation of a unified Arab currency; coordinating the position of member states in dealing with international monetary and economic problems with the aim of realizing their common interests; and settling current payments between member states in order to promote trade among them.

AME is empowered, among other things, to: (1) provide short-term and medium-term loans to finance balance of payments deficits of member states; (2) issue guarantees in favour of member states to strengthen their borrowing capabilities from other financial sources for financing their balance of payments deficits; (3) act as intermediary in the issuance of loans in Arab and other financial markets for the account and under the guarantees of member states; (4) manage any funds placed under its charge by a member state or states; (5) hold periodic consultations with member states on their economic conditions and the policies they pursue; and (6) provide technical assistance to banking and monetary institutions in member states.

A Note on Working of the State Trading Corporation

Kalipada Basu*

The basic objective of the State Trading Corporation of India (STC) is to serve industry and trade through regular supply of essential inputs at reasonable prices and also to boost up exports of the country.

Within two decades of its existence the STC has emerged as the biggest canalising agency for imports as well as exports Over the years the STC's activities have been extended beyond the canalised items In view of the increasing volume and wide variety of the items of exports and imports, the policies and procedures adopted by the STC and its subsidiaries have decisive impact on industries and trades dependent on them especially where imports and exports are exclusively canalised.

The working of the STC and its subsidiaries have recently been reorganised and streamlined following the recommendations of the study made by the Indian Institute of Management, Ahmedabad. The improved performance of the STC is well-reflected from the fact that its turnover has increased from Rs. 975 crores in 1976-77 to Rs. 1,070 crores in 1977-78 with an increase in its trading profit to Rs. 35 crores in 1977-78 as against Rs. 26.4 crores in the previous year. But the disappointing feature is that STC's overall export has declined from Rs. 666 crores in 1976-77 to Rs. 567 crores in 1977-78, though the export of non-canalised items has increased from Rs. 160 crores to Rs. 237 crores during that period.

While the STC's performance over the years has no doubt been commendable, yet in view of the growing economic development in the country, some of the constraints which still appear to be inhibiting growth of its associates need be promptly attended to.

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* Hooghly, W. B.

Pricing Policy

One of the outstanding constraints is the pricing policy of STC. The pricing policy appears to suffer from lack of uniformity and overall consistency as amongst different canalised items. It has been observed that STC does not necessarily function as a service-oriented canalising agency but often works with the idea of mopping up profits arising out of its bulk purchases. As a result, industries drawing their essential raw materials from the STC or its subsidiaries are loaded with high prices which result in high cost of their products Prices of similar inputs directly imported by actual users are often found to be cheaper than canalised imports. This only confirms that contrary to the original assurances the economies of bulk indenting and procurement accrued to the STC are not being passed on to the actual users. In all fairness, prices of imported materials charged by the STC should not exceed those of direct imports STC should also suitably revise its pricing policy consistently with the economies of bulk purchases so that STC's pricing policy does not act as a cost escalation factor contrary to the Government's policy of stabilising prices.

Delay in delivery

Some indigenous manufacturers of polystyrene in West Bengal were closed for want of raw materials. Visualising the anticipated shortfall of raw materials, the manufacturers requested the Chemical & Pharmaceutical Corporation of India (CAPCO), a subsidiary of STC, to meet the shortfall in supply of raw materials through import to forestall any speculation or price fluctuation in the market. The CAPCO invited registration from actual users for 4000 tonnes of raw material which they were importing from South Korea. The CAPCO collected several lakhs of Rupees from actual users against the shipment on which the latter have been paying high interest charges. Several months had elapsed but ship loaded with the raw materials did not reach the port. As the funds of the manufacturers are blocked up in such a way for months together they face serious inconvenience under the present tight money market condition. This implies that on the one hand the industry is starved of the raw material and on the other there is stringency of funds at its disposal to procure the material from alternate source for maintaining production.

Under the circumstances, necessary instructions be issued to ensure delivery of the material within a stipulated period of time failing which the entire money collected against this shipment be refunded to the parties concerned on their undertaking to lift the material when the ship is seen at the port.

There is also need for an early review of the system of receiving advance payments against future supplies so as to narrow down the time gap between receipt of payments and actual supply of materials to mitigate the hardship arising from locking of working capital for long. As a major supplier of essential inputs, the STC and its subsidiaries should increasingly conform to terms of payment as in vogue in business.

Earnest Money & Bank Guarantee

Sometimes industries or businessmen are being threatened with forfeiture of Earnest Money and invocation of Bank Guarantees in cases of their failure to lift the material in time. It is further understood that in some cases the Earnest Moneys have already been forfeited and Bank Guarantees invoked. It may be mentioned here that when there was acute scarcity of raw materials in the country, the importers registered their requirements with the CAPCO and deposited the requisite Earnest Money in good faith. The industries legitimately expected the CAPCO, with the elaborate machinery at its command, to ensure delivery of the materials within the contracted period. But, unfortunately, the CAPCO invariably fails to supply the raw material as stipulated. It even cannot supply the material within the mutually agreed extended dates. In some cases, the stipulated quotas for several quarters are unilaterally lumped together. As a result, it has become very difficult for the small units to lift the material in such a bulk quantity on account of paucity of funds at their disposal. Furthermore, as the CAPCO fails to supply the material in time, manufacturers try to procure the raw material from alternative sources to meet their commitments to the customers. In spite of the fact that the default lies with the CAPCO for not being able to deliver the material in time, they are unilaterally and arbitrarily forfeiting the Earnest Moneys deposited with them or invoking Bank Guarantees by writing letters to the party's bankers.

It is, therefore, desired that each case of forfeiture of Earnest Money and invocation of Bank Guarantee be reviewed jointly with the parties concerned. In case, it is found that the actual users are not in default, the Earnest Money, which has been forfeited, should be refunded and the Bank Guarantees, if invoked, be revoked and where money has been recovered, the same should be refunded. Meanwhile, CAPCO should be advised by the STC not to take any unilateral action regarding forfeiture or invocation.

Import of Edible Oils

The STC imports edible oils in bulk. In fact, the entire Vanaspati Industry and a good chunk of Rapeseed Oil consumers in the Eastern India depend upon the STC for regular supply of imported edible oils. At present, major portion of edible oils is being imported through Bombay and Kandla Ports and thereafter transported by rail to the Eastern Region. Only a small quantity of edible oils and that too occasionally is being imported at Calcutta Port. It may be mentioned here that due to unprecedented congestion at Bombay Port during recent months the discharge of edible oils is slowed down considerably and at times the ships are detained for a long period on the high seas awaiting for berths. As a result, the factories located in Eastern India suffer due to non-supply of edible oils in adequate quantities and in time. The irregularities in supplies of basic oils by STC seriously interferes with production and the availability of these essential items to the consumers.

The STC should, therefore, arrange to import edible oils meant for the Eastern States through Calcutta Port to meet the recurring requirements of vanaspati factories, not only in West Bengal, but in Bihar and Eastern U.P. as well. It is understandable that there are certain difficulties for the large vessels to enter Calcutta Port due to inadequate draught. In case, the ships carrying edible oils cannot come to Calcutta Port, arrangement should be made to make use of Haldia Port so as to avoid additional cost by way of rail transportation and above all frequent disruptions in supply of essential raw materials to the vanaspati factories in the eastern part of the country.

Service Centre

The STC has been planning to establish a 'Design-cum-Production Service Centre' and the Indian Institute of Management, Ahmedabad, has been asked to prepare a report in this regard. The proposal is welcome. But considering the specific problems of the Eastern Region the 'Design and Production Service Centre' should be set up in Calcutta for assisting and guiding the cross sections of industries and the exporters in adopting the latest designs, consumers' specifications, modern technology and processes so as to make their products more competitive as well as acceptable in the international market. This service is urgently called for to combat mortality arising out of product and process obsolescences as well as vagaries of consumer's demand abroad. This has greater relevance for Eastern Region in general and West Bengal in particular because of predominance of export of traditional items. It may be mentioned here that future export prospects critically hinge on diversification of product-mix along with decentralisation in direction of exports. The proposed centre should specially take up programmes connected with modern growth oriented industries like electronics, advanced engineering, plastic/polythene based industries, chemicals, intermediates like spares, components and accessories etc. along with diversification programme for our traditional industries like jute, engineering and tea. This centre should also keep close track with the fast changing designs and fashions in consumer goods like textiles, readymade garments, footwear etc., in the world market for timely and prompt feed-back of information to the manufacturers and/or exporters in this region.

Centralised Control

It is generally felt that it takes much time to finalise deals with STC because of centralisation of authority. It is an admitted fact that in the international market the competitive strength of the exporter depends to a great extent on prompt action and quick decision. But in case of deals through STC, the transactions badly suffer because the Regional Offices, though reportedly staffed by Senior Officials, do not seem to be vested with adequate decision making authority and as such they have to refer almost all the matters to Head Office for necessary instructions. For minimising the sufferings of the exporters the Regional Offices should be delegated greater authority and responsibility to settle deals on the spot and if any matter requires to be referred to the Head-quarters, the decision should be made available to the party without much loss of time.

Regional Advisory Committees

The working of the STC, as a major importer and exporter, has decisive impact on the industries drawing their supplies from or routing their products through the STC and its subsidiary organisations. It is, therefore, desired that the STC should have Central as well as Regional Advisory Committees, apart from the existing Product Advisory Committees on the lines of similar Advisory Bodies in respect of Export-import Customs, Central Excises, etc. Such Advisory Committees should also include representatives of leading Chambers of Commerce and Industrial and Commercial Associations. The deliberations of such Advisory Committees would be found useful in rationalising policies and procedures and in streamlining the working of the STC and its subsidiaries.

STC's proposal to monitor certain sectors of our economy with a view to maintaining price stability and ensuring adequate supply of basic inputs is surely commendable, but care should be taken that such monitoring does not stand in the way of smooth functioning of industrial houses coming within the purview of such a system.

International Monetary System, Second Amendment, and Developing Countries

D. D. Guru*

The international monetary system has been undergoing fundamental changes in the recent years. The original Brettonwood system with its par value of the adjustable peg type system has given way a regime of managed floating exchange rates system. The Second Amendment of the Articles of Agreement of the International Monetary Fund has brought about important modifications in the working of the system. The objective of the present paper is to analyse the implications of some of these changes vis-a-vis the role of the important currencies in the international monetary system. The paper is divided into two parts. The first part indicates the significance and the salient features of the international monetary system and the changes brought about in it through the Second Amendment of the Articles of Agreement of the I.M.F. having bearings on the important key currencies and their consequences. The second part deals with the case of the developing countries.

I

The first Amendment to the Articles of Agreement of the International Monetary Fund was effected in 1969 in order to meet the problem of the shortage of liquidity faced by the international monetary system. It supplemented the liquidity structure by introducing a new reserve asset called Special Drawing Rights (SDRs). This was the first instance of creation of a reserve asset by the IMF. The problems of the international monetary system, however, continued to multiply and intensify in the suceeding years. The declaration of sapping of the provision of the convertibility of dollar by the U. S. in 1971, the devaluation of dollar and the

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* A. N. S. Institute of Social Studies, Patna, Bihar.

declaration of joint and individual floating of exchange rates by the important currencies led to a virtual collapse of the par value and the adjustable peg system which was one of the most important features of the Brettonwood Arrangements. The unilateral rise in the price of oil by the OPEC countries and the mounting inflationary situations accompanied by the recessionary tendencies in the world economy between 1973 and 1975 seriously disturbed the balance of payments position of the different countries in the world economy. The members of the IMF felt the necessity of bringing about reform in the international monetary system and the Committee of 20 was appointed to go into the details and suggest appropriate reforms for removing the ills of the international monetary system.[1]

The slow upward drift of inflation rates in the late 1960s quickened after 1971 carrying inflation in most industrial countries above 10 per cent per year and in 1974 more than twice that high in some countries. The upward movement of inflation rates was the consequence of a series of events that culminated with oil embargo and oil price increase of late 1973. Economic policies virtually in all industrialised countries were oriented towards expansion in 1972. Grain prices also began to rise following decline in world harvest of wheat, corn and rice in 1972. World grain stocks (held mainly in the United States) had been whittled down from mid 1960 level so that poor harvests had a greater effect on prices than earlier. Prices of manufactures also began to move up at a faster rate in 1973 reflecting higher input cost and strong demand.

The inflation rate varied among countries. The divergences were partly due to the variation in demand pressures and the extent and speed of wage responses to increase in cost of living. The exchange rate realignment brought about in 1971 through the Smithsonian agreements is also said to contribute to widening the differences in inflation rates. The countries that had recorded above average inflation in the years up to 1971 experienced decline in their currency rates leading to additional inflationary pressures from rising import prices. The shift to flexible rates among major currencies over 1971-73 period also provided countries with more freedom to pursue policies with different consequences for inflation coming at a time when upward price pressures were already intensifying the oil prices touched off an inflationary chain reaction. The oil price increase of 1973 led to huge surpluses in the current account of most OPEC countries and their mirror image—large deficit—elsewhere. The OPEC countries could not immediately increase their imports to match their higher revenues. Hence their combined current account surplus climbed from less than $10 billion to over $60 billion in 1974. A large part of the corresponding shift in the position of the rest of the world was seen in the emergence of a combined deficit of more than $30 billion in the OECD countries after surplus averaging $4.3 billion for 1971-73. The deficit of the non-OPEC developing countries widened to about $25 billion from an average of $8 billion in 1971-73. We can have an idea about the world current account pattern for the period 1973 from the table given[2] below :

Table—1

World Current Account Pattern 1973-77[1]

(Billions of U.S. dollars)

Area and Country	1973	1974	1975	1976	1977[2]
OECD	2.8	—32.8	— 6.3	—26.5	—32
United States	—0.4	—[3] 2.3	11.6	— 1.4	—18
Canada	0 0	— 1.5	— 4.7	— 4.2	— 4
Japan	—0.1	— 4.7	— 0.7	+ 3.7	+10
European Country	1.7	—11.3	+ 0.7	— 7.8	0
West Germany	4.3	9.7	3.8	3 4	2
Developing Countries					
OPEC	9.0	61.8	30.8	42.3	40
Non OPEC	—8.0	24.5	—40.0	—27.3	—23
Others[4]	—5.5	— 9.8	—18.0	—13 3	—11
Residual[5]	1.7	5.3	33.5	23.8	26

1. Data are on OECD Basis ; 2. Preliminary estimates ; 3. Excludes cancellation of Indian debts (---2.0 billion) and extraordina y grant---dollar 0.7 billion ; 4. Includes communist countries, South Asia and non-OECD countries ; 5. Arising from timing differences and inconsistencies in natural data.

It can be seen from the above table that there has been current account deficit among some of the countries of both developed and developing groups and also naturally current account surplus for some of the developed and developing countries. While the OECD countries in general and the non OPEC developing countries in particular have shown adverse balance of payments, the OPEC and some of the OECD countries like Japan and West Germany are found to be having surplus in current account. Among the OECD countries, the USA and Canada are found to be having deficit in the current accounts in the years between 1973 and 1977 except 1976 when the U. S. had surplus of around $11 billion. Japan also suffered deficit between 1973 and 1975 but then picked up and showed marginal surplus of around $3 billion during 1976 and surplus of $40 billion during 1977. West Germany, however, had persistent surplus in the current accounts. The surplus of the OPEC countries which stood at $61 billion during 1974 have been declining in the succeeding years but it still remains at the level of around $40 billion during 1977 creating problems of adjustments in the international monetary system. The problem of adverse balance of payments has been attempted to be solved through the higher dose of financing by the International Monetary Fund through its various drawing rights existing and newly created during this period. Two important new facilities created have been the Oil Facility during 1974-1976 and the Supplementary Financing Facility created during 1977. The Oil Facility created in 1974 proved useful for both the developed and developing countries. By May 1976 when this facility was terminated 55 of the Funds members had made drawings for a total of SDR 6 9 billion. The Oil Facility had been supplemented with Subsidy Account which was set up on Aug. 1, 1975 and was designed to assist the Fund member (The Most Adversely Affected) nations among the developing countries in meeting the cost of using the Fund's oil facility by reducing the effective rate of annual charges payable on drawings under the facility by about 5 per cent per year. The new temporary Supplementary Financing Facility is again an arrangement under which the Fund would borrow from countries willing to lend to the Fund at market related rate of interest. Access to assistance under the Supplementary Financing Facility is to be available to all members and which would be normally provided by arrangements covering a period longer than one year and is subject to adequate conditions to induce countries to pursue suitable adjustment policies. In 1973 the use of Fund's resources had dropped to the lowest level in the past ten years at less than SDR 1 billion. In the Funds fiscal year 1974—75 (ended April 30, 1975) drawings rose to SDR 5.1 billion, an amount substantially exceeding the previous record of SDR 3 billion of 1969-70 and contrasting sharply with the drawings of just over 1 billion in 1973-74. In the Fund's fiscal year 1976-77, drawings were even larger aggregating SDR 6.6 billion. Even in 1976-77 fiscal year, after the oil facility had been terminated the drawings of SDR 4.9 billion still reached the third highest amount in Fund's history.[8] One of the important contributory factor in the increased drawings has been the liberalisation in December 1975 of Compensatory Facility for financing export shortfalls under which maximum entitlement of members in terms of quota was increased and the method of calculating export shortfalls in real terms was changed so as to take into account the effect of export inflation in concealing such shortfalls.

There has been relative decline in the use of Fund's resources during 1977 and 1978. Drawings on Fund's resources during 1977 totalled SDR 3.4 billion which were a little less than half the volume of drawings in 1976 and were accompained by record volume of repurchases which reduced the total net drawings to SDR 427 million. At the end of 1977 total net drawings outstanding were equivalent to SDR 15.4 billion, only slightly more than SDR 15.03 billions of net drawings as on December 31, 1976. The 1977 purchases had raised the cummulative total since 1947 to SDR 44.6 billion or to SDR 37.7 billion net of the oil facility. Industrial countries accounted for preponderant share of members' 1977 purchases, while the purchases by developing countries dropped sharply from SDR 2.7 billions in 1976 to SDR 0.7 billion in 1977. The purchases and repurchases during 1978 stood at SDR 3.7 billions and SDR 4.8 billions respectively. The share of developing countries in the purchases during 1978 stood at SDR 1.02 billions.

The reduction in the outstanding use of the Fund is said to be caused due to several factors. One important cause could be the improvement in balance of payments situations in some of the countries. The other reasons are the availability of funds from the international money and capital markets. Moreover, the large

purchases that began in 1974 reached their three years limit and large repurchases were made in pursuance of these commitments.

The purchases from the Fund in the year 1970 have been mostly under the reserve tranch (formerly the gold tranch). The total purchases under reserve tranch amounted to SDR 2.5 billion or nearly 28 per cent of the purchases. The 1978 purchases under reserve tranch was higher as compared to SDR 80 million and SDR and SDR 991 million in this tranch in 1977 and 1976 respectively. The purchase of SDR 421 million under credit tranches in 1978 was, however, much lower as compared to the purchases under those tranches at SDR 2.6 billion and SDR 1.7 billion during 1976 and 1977 respectively. Among the purchasers under the general resource account the U.S.A. was the largest purchaser of SDR 2.2 billion during 1978 (November end). One significant development in the past ten years has been the increase in the use of SDR's in the international transactions. These transactions have been operative for stabilising the extental values of important currencies of the international monetary system. We can have an idea about the *increase* in the use of SDRs from the table II given below :

Table II

Use of Special Drawing Rights

(millions SDRs)

Transfers by Participants	**1970-72**	**1973-75**	**1976**	**1977**	**1978**	**Total 1970-78**
To other Participants						
In Designation	884	681	220	267	852	2,904
By Agreement	989	1275	353	699	1827	5,143
To the Fund						
Repurchases	1,088	101	446	837	347	2,819
Charges	149	356	629	807	747	2,687
Quota Payments	—	—	—	—	220	220
Others	15	42	22	24	41	144
Transfers by the Fund						
To Participants						
Purchases	292	46	430	428	1025	2,224
Reconstitution	104	488	531	583	120	1,827
Remuneration	35	37	24	122	136	354
Other	192	5	3	13	50	263
Total Transfers	3,147	3,031	2,659	3779	5365	17,981
Funds holdings of SDRs at the World Report.	629	551	659	1182	1205	—

It can be easily seen from the above table that the use of SDRs has increased sharply during the past few years. The increase has been most spectacular under the Transfer by Participants by Agreement. Such use by the participants increased to SDR 1827 billion during 1978 as compared to SDR 699 million, SDR 353 million, and SDR 1275 million during 1977, 1976 and 1973-75. In transactions by agreement the U.S.A. transferred SDR 600 million to the Federal Republic of Germany to obtain Deutsche mark and SDR 500 million to Japan for Japanese yen as a part of the package of measures announced in November 1, 1978 to strengthen the U.S. dollar in the exchange market.

The largest transfer of SDR by the Fund was in purchases (drawings) by members at SDR 1.021 billion during 1978 as compared to SDR 46 million, SDR 430 million and SDR 428 million during 1970-72, 1973-75, and 1976 respectively. The transfer of SDR 1025 million during 1978 was almost half of the total under this head for the whole period of 1970-78 standing at SDR 2.2 billion.

The increasing uses of Fund resources under the General Account as well as in the SDR account have been possible on account of various policy measures taken up by the Fund for redesigning the international monetary system according to the problems created in the system. Among such measures taken up by the Fund are the increase in quota, demonetization of gold and changes brought about in the adjustment mechanism in the Fund. The prolonged period of negotiations at various levels have culminated in bringing about a set of changes with far-reaching significance through the Second Amendment of the Articles of Agreement made effective since April 1, 1978. The essential features of the Second Amendment could be summarised as follows :[5]

(1) The introduction of new and flexible provisions dealing with exchange rates arrangements.

(2) Reducation in the role of gold in the international monetary system including the disposition of part of the Fund's own holdings of gold.

(3) Changes in the characteristics and expansion of the possible use of SDR.

(4) Simplification and expansion of the types of the Funds financial operations and transactions, particularly those conducted through the General Department.

(5) The possible establishment of the Council as the new organ of the Fund.

(6) Certain improvements in the organisational and administrative aspect of the Fund.

Of these features the most important from the point of view of the role of important currencies in international monetary system relates to the Amendment regarding the exchange rate mechanism. The changes brought about in the adjustment mechanism have been the de jure recognition of the breakdown of the feature of par value system of the Brettenwoods Agreements with the countries adopting fluctuating exchange rate system and flexing the external values of currencies in terms of baskets of currencies or in terms of specific currencies after 1971 and the inability of the Fund to restore the fixed parity system, there was no option but to legalise the system of flexible exchange rates. Members were declared free to apply exchange rates arrangements of their choice, except that they could not maintain the value of their currencies in terms of gold. The Fund is required to oversee the international monetary system and members have the obligation to endevour to direct its economic and financial policies and collaborate with the Fund and with other members in order to assume orderly exchange arrangements and to promote a stable system of exchange rates.[8] The Fund shall exercise firm surveillance and shall adopt specific principles for guidance of members. The guiding principles regarding the exchange rate have been laid down under which a member shall avoid manipulating exchange rates or international monetary system in order to prevent effective balance of payments adjustment or to gain unfair advantage over other members. A member was expected to intervene in exchange market if necessary to counter disorderly conditions which may be characterised, inter alia, by disruptive short-term movements in exchange value of its currencies. Thirdly, the members were to take into account in their intervention policies the interest of other members, including those of the countries in whose currencies they intervene.[9]

The surveillance of exchange rate policies is to be adapted to the needs of international adjustment that they develop. In its surveillance of the observance by members of the guiding principles of exchange rate policies the Fund is to consider the following developments : (a) protracted large scale intervention in one direction in exchange market, (b) unsustainable level of official or quasi official borrowings or excessive and prolonged short-term official or quasi official lending for balance of payments purposes, (c) the introduction, substantial intensification, or prolonged maintenance for balance of payments purposes, of restrictions on or incentive for, current transactions or payments or the introduction or substantial modification for balance of payments purposes of restriction or incentives for the inflow of capital, (d) the pursuit, for balance of payments purposes, of monetary and other domestic financial policies that provide abnormal encouragement or discouragement to capital flows and (e) behaviour of exchange rate that appears to be unrelated to underlying economic and financial conditions including factors affecting competitiveness and long term movements.[10]

These principles of firm surveillance enuniciated for the members and the Fund are in the direction of maintaining orderly and stable exchange rates between members. But the emergence in the balance of payments position and continuing deficit in some countries and continuing surplus among other countries creating adjustment problems could not possibly be solved through the laying down of principle of firm surveillance. The solution of such problems require positive steps taken by the surplus and deficit countries in sharing the burden of adjustment. There is no sanction for the surplus countries to force them to take effective steps for correcting their increasing surplus. There is more so when the system of floating rates is accompanied by exchange control measures and various protective measures of trade. We have seen that the U.S.A. has been facing the problem of increasing volume of deficit in the balance of payments whereas the countries like Japan and the Federal Republic of Germany have been increasing the sizes of their surplus in the balance of payments.

The existing exchange rate regimes could be classified under (a) Floaters, (b) Snake countries, (c) U. S. dollar peggers, (d) sterling peggers, (e) basket pegging of SDR and (f) other basket peggers. Under these different exchange rate regimes the currencies of intervention have special significance and fluctuations in their values in same direction as a result of continuing surplus or deficits in the balance of payments are bound to have serious effects in the functioning of the international monetary system. The firm surveillance system has no mechanism of excercising power over the surplus countries in compelling them to bear the burden of adjustment. There is the natural fear that pressure on deficit countries to adjust will remain greater than that on surplus countries and the surveillance will be exercised more effectively in the cases of members that turn to the Fund for financial support. There is bound to be a connection between the conditionality in the use of Fund's resources and surveillances.

II

An important question arises regarding the benefits to the developing countries arising from the changed adjustment mechanism through firm surveillance role of the Fund as brought about through the second Amendment of the Articles of Agreement. The arguments advanced in favour of the 'firm surveillance' for the developing countries is that such a system would bring about reduction in protectionism because the exchange rates that contribute to adjustment reduce the danger of protectionism which is very harmful to developing countries that are in the process of industrialisation. It is further pointed out that smoothly functioning adjustment mechanism is helpful for the maintenance of steady flow of capital to developing countries. These advantages claimed for the developing countries however depend on the firm surveillance systems being able to bring about stable exchange rate among the countries.

We have seen that the flexible exchange rate system is likely to compell the deficit countries to bear the maximum burden of adjustment in the balance of payments. The developing countries chronically suffer from adverse balance of payments. This is more so for the countries which are not oil producing.

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Editor

HIMANSU ROY

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